

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 799.—Vol. XX.]

LONDON, SATURDAY, DECEMBER 14, 1850.

[PRICE 6D.]

### VALUABLE COAL MINE FOR SALE.

**MR. BROUGH WILL SELL, BY AUCTION,** on Tuesday, the 17th day of December, 1850, at Twelve o'clock, at Mr. Brown's Tuff Hotel, NEWCASTLE-ON-TYNE, the MINES OF COAL within the FARM of HOLYWELL GRANGE, situated in the parish of EARSLEY, in the county of NORTHUMBERLAND, comprising ONE HUNDRED and THIRTY-ONE ACRES, or thereabout, which are wrought by means of pits upon the farm, and in the occupation of Messrs. Plummer & Co.

For further particulars apply to Mr. Henry William Fenwick, or Messrs. Claytons and Dunn, solicitors, Newcastle-on-Tyne.

### MONTGOMERYSHIRE.

**TO MINING SPECULATORS AND CAPITALISTS.**—TO BE SOLD, BY PRIVATE CONTRACT, either TOGETHER or SEPARATELY, all those very promising LEAD MINES, called RHYDYBENWCH and CROWLWY, situated in the parish of LLANIDLOES, in the county of MONTGOMERY, together with all the ORE raised and now thereon.

RHYDYBENWCH MINE is distant from Llanidloes about 7 miles, and near the very productive mine called Nantmelyn. An adit level has been driven, and a shaft sunk, in which the lode shows itself about 4 feet wide at present.

CROWLWY MINE is situated within 4 miles of Llanidloes, on the banks of the River Clywedog, and not far distant from that well-known and very valuable mine called Bryntal, the lode of which, it is believed, runs through it.

The working of the mines on sale commenced only very lately, and satisfactory results will be assigned for disposing of them. There are several lodes in the sets, which are very extensive, and there is ample water-power, and it only requires a small additional outlay to bring them into a state of profit. The whole will be sold upon very moderate terms, and with immediate possession.

For further particulars, and to treat for the mines, apply to Mr. William Jerman, the younger, builder, Llanidloes.

**EAST EDMONDSLEY COLLIERY.—TO BE SOLD.** OR LET, THE CURRENT-GOING COLLIERY OF EAST EDMONDSLEY, in the county of DURHAM, containing 174 acres, or thereabouts, held under lease, of which about 30 years are unexpired. The coal has been sold in the markets as "Gibson's Wall's End" and "North Durham Wall's End." The purchaser or lessee will be required to take the engines, &c., at a valuation, which will be of small amount.

For further particulars apply to Mr. William Barkus, viewer, Lowfell, Gateshead.

**FOR SALE, BY PRIVATE CONTRACT.**—A 49-inch cylinder PUMPING ENGINE, 8-foot stroke, equal beam, with new condensing work, and boiler of 10 tons.—Price £260.

A 32-inch cylinder PUMPING ENGINE, 9-foot stroke in the cylinder, and 8-foot in the shaft, with boiler, &c., 10 tons.—Price £250.

A 20-inch cylinder PUMPING ENGINE, of 4-foot stroke, equal beam, suitable for proving a small mine.—Price £100.

For further particulars apply to Capt. Evans, jun., Pool, Cornwall.

**MINES.—TO BE LET, ON LEASE, THE WHOLE, OR A PART,** of the very valuable MINES OF COAL AND IRONSTONE remaining to be got in the FENTON PARK ESTATE, which consists of the PATCHES FARM, the YEW TREE FARM, and the FENTON PARK FARM, containing together 197A. 0a. 37r., or thereabout, situated at FENTON, in the parish of STOKES-UPON-TRENT, and county of Stafford.

This Estate is distant from the canal, at Stoke, about 1 mile. There are many shafts in the estate, which are sunk through nearly the whole of the ironstone measures. The ironstones are of good quality, and there is an abundance of ironstone in the ground. According to sections taken in the Fenton Park Estate, and in adjoining property, there is a thickness of ironstones 10 feet 4 inches, cropping out on this estate. The inclination of the strata is about 10° to 30°.

There is in this estate, within a moderate depth from the surface, a sufficient quantity of good coal for the purposes of calcining the ironstones and working the engines. The deeper mines of coal in this estate are of a superior quality; and if it be required they would be got along with the shallow mines of coal and the ironstone. The ironstone mines would be got very cheap, and there would be no water to draw in getting them.

There are several small engines and colliery utensils on the estate that would be taken by the lessee at a valuation.

For any further information respecting these mines apply to Mr. Charles Bromley, of Motley, near Darlaston.

### COLLIERIES AND MINERALS, GLAMORGANSHIRE.

**TO BE LET, ON LEASE, ALL THE VEINS OF COAL, IRON MINE, AND FIRE-CLAY,** lying under HENDREGARRE FARM, containing 39A. 0a. 17r., situated at GYNCORRWG, 9 miles from Neath, and within 4 miles of the Vale of Neath Canal and Railway, which communicate with the ports of Neath, Briton Ferry, and Swansea—one Vein of Free-burning Coal, 3 feet thick, of most excellent quality, which crops out, has been fully proved, and there is no doubt that all the lower measures (both of coal and iron mine) belonging to the South Wales Basin, are to be met with under this property. The coal may be opened, cut, and shipped at a cheap rate.

A most favourable opportunity for establishing an extensive colliery is thus afforded, at a time when the completion of the South Wales and Vale of Neath Railways (now in a forward state) will give peculiar value to the minerals of this district.

THE SURFACE (if desired) will be LET with the MINERALS.

Also, the LLETTY MAWR COLLIERY, a small field, but most advantageously situated, being only 3 miles from Neath, immediately above the canal and railway leading to Neath, Briton Ferry, and Swansea. The coal is 3 feet thick, free-burning, and of superior quality, suitable for household and all other purposes. It may be worked very cheaply, and with a small capital, as a short level will drain the whole field, and a short incline connect the mouth of the level with the above canal and railway; neither steam or horses will, therefore, be required.

Applications to be made to W. J. Browne, Esq., Porton-road, Paddington; A. Cuthbertson, Esq., Neath; or Mr. L. Griffiths, Ynysgerwn, near Neath.

### EAST WHEAL GEORGE MINING COMPANY.—At a

Bi-monthly Meeting of the shareholders, held at the offices, No. 25, Fleet-street, on Tuesday, the 10th December, 1850, pursuant to notice,

GEORGE WHITMORE, Esq., in the chair,

The list of shareholders was read; the report of the committee, with abstract of accounts, was also read.

The reports received from Capt. Lean and Capt. Pomroy were submitted to the meeting.

Moved by James Whitmore, Esq.; seconded by W. Elmalie, jun., Esq.

That the report, with the accounts, now read, are deemed highly satisfactory by the meeting, and that the same be duly received, and entered in the cost-book.

That an abstract of the report and accounts submitted to this meeting be printed and transmitted to the several shareholders.

That the thanks of the shareholders are due to the committee for the labour and time bestowed by them in attending to and promoting the interests of the shareholders.

That the thanks of the meeting be given to W. E. D. Cumming, Esq., as pursuer, for his gratuitous services and personal attention on visiting the mine; as also to Mr. Henry English, for the services rendered by that gentleman, and the use of his offices.

That the proposition submitted by the committee of conducting the business of the mine henceforth at the offices, No. 2, New Broad-street, City, in accordance with the arrangements made, be approved.

That the committee for the ensuing two months be composed of Messrs. W. E. D. Cumming, George Whitmore, John Young, and Henry English. GEORGE WHITMORE.

The above being carried unanimously, it was—

Moved by W. E. D. Cumming, Esq.; seconded by J. Young, Esq.—

That the thanks of the shareholders are due to the chairman, and are hereby given, for the services rendered by that gentleman in promoting the objects of the shareholders, and for his conduct in the chair.—Carried unanimously. HENRY ENGLISH.

### LINARES MINING ASSOCIATION.—At the Half-yearly

General Meeting of proprietors, held at the offices of the Company, on Thursday, Nov. 28, 1850,

THOMAS FIELD, Esq., in the chair,

It was resolved,—That the Directors be empowered to raise the further capital sum of £6750 by the issue of 4500 additional shares, on which the sum of £1 10s. shall be paid as follows:—10s. per share on the 1st of January next; 5s. per share on the 1st of Feb.; 5s. per share on the 1st of April; 5s. per share on the 1st of June, and the remaining 5s. per share on the 1st of August next; and that on the due payment of such sum of £1 10s. per share, in accordance with the following resolution, such shares shall rank with and be entitled to share equally in all the advantages to be derived from the original shares of this association.

It was also resolved,—That if any instalment on the 4500 shares to be now issued shall remain unpaid 15 days after the days on which such instalments shall be due, in accordance with the preceding resolution, such shares may be declared forfeited by the directors, and shall be absolutely forfeited accordingly.

Resolved,—That application for the said 4500 shares, now to be issued, be made to the Secretary in writing, on or before the 20th of December; and the said shares shall be allotted by the Directors to the existing shareholders in this Association in proportion to the number severally held by them, but that if any remain to be allotted after the 20th of December, such shares may be allotted at the discretion of the directors.

In accordance with the above resolutions, applications from the shareholders for the additional shares will be received at the offices, No. 2, New Broad-street, until the 20th inst., addressed to

G. EATON, Secretary.

### WIRE ROPE.—The UNDERSIGNED having recently

made extensive additions to their Machinery, respectfully solicit a TRIAL of their ROPES, which, in QUALITY OF MATERIAL and PERFECTNESS of MANUFACTURE, cannot be surpassed. WILKINS & WEATHERLY.

Patent Wire Rope Works, 39, High-street, Wapping, London.

N.B.—The 34 miles of wire rope in the Wapping Tunnel, at Liverpool, was supplied from this establishment.

**MR. JAMES CROFTS** tenders his SERVICES to CAPITALISTS for the PURCHASE of BRITISH MINING SHARES, whether on a large or small scale; and will be happy to indicate such mines as present the greatest chance of permanent dividends, or ultimate success of the workings, either at the request of his correspondents, or in reply to specific inquiries. The utmost punctuality in attending to communications from the country may be relied upon; and by transacting business only for PRINCIPALS, Mr. Crofts hopes to establish an identity of interests between his friends and himself.

JUDICIOUS PURCHASES IN ESTABLISHED DIVIDEND MINES will INSURE a HIGH RATE OF INTEREST per annum, varying from 15 to 20 per cent.

MR. CROFTS HAS SPECIALTY FOR SALE—

Bedford United	Wheal Augusta (15 shares)
East and South Tamar	South Carr Brea (20 shares)
Wheal Crobar (10 shares)	Tavistock Consols (30 shares)
Peter Tavy and Mary Tavy	Wheal Franco (20 shares)
Wheal Fortescue (20 shares)	Tincroft (10 shares)
Bodmin Consols (20 shares)	Hennock (10 shares)

WANTED TO PURCHASE.—Penzance Consols, Wheal Sheba, Grambler and St. Aubyn, and Devon Consols.

MR. CROFTS issues a PRICE CURRENT of Mining Shares twice each week, which may be had on application.

Dated No. 4, King-street, Cheapside, December 14, 1850.

### MINING AND GENERAL AGENCY AND AUCTION

OFFICES.—59, THREADNEEDLE-STREET, LONDON.

Messrs. R. TREDINNICK and CO. beg to inform their Friends, Capitalists, and the Public, that their SALES, BY AUCTION, OF MINING, RAILWAY, and OTHER SHARES, take place every WEDNESDAY, at Twelve o'clock, at their SALE ROOMS in the HALL OF COMMERCE—commencing on the 18th inst.

Messrs. TREDINNICK & CO. hope that the arrangements they have made will afford that convenience and advantage to those embarking in mines, railways, &c., so desirable and necessary to ensure the ready and effective purchase and sale, and which the importance and magnitude of such property demands.

SHARES of every description BOUGHT and SOLD ON COMMISSION, and MONEY-TARY MATTERS of every kind NEGOTIATED; Market Value of Shares, Statistical and other Information afforded gratuitously, upon application.

Messrs. T. & CO. offer to the mining world the opportunity of exhibiting in their Public Sale Rooms, Reports, Plans, Sections, and Specimens of Mines and Mineral Districts, whether situated in the United Kingdom, Foreign, or Colonial Possessions, upon forwarding the same, free of expense; as well Plans, Sections, and Valuations of Estates, Houses, and other Property for Sale.

They subjoin herewith a List of Mines, situated in the best mining districts of the United Kingdom, to which they especially beg to draw public attention, as offering desirable inducements for investment, many of which pay dividends of 10, 15, 20, and 25 per cent. per annum upon the market value of shares, whilst others, from capital subscribed and expended, are on the eve of paying dividends, but selling at corresponding low prices.

The impetus given to British mining by the improved and firm position of the metal markets—the prosperity of the manufacturing districts—the superabundance of money, with the stable condition of the Government and its revenue, added to the success of the country in its various channels—at peace with the whole world, is to them one of the most pleasing and satisfactory character, and they have no doubt but 1851 will prove to England one of the brightest and most successful epochs in its commercial history.

Conditions of sale, together with Reports of Mines in every district, obtained from practical agents at the shortest notice, and upon the most economical terms.

Commission 2½ per cent. on shares under £100, and 1 per cent. on those above.

To prevent disappointment and inconvenience, they respectfully request that shares be entered for sale at auction two days previous to sale; and shares from country correspondents to be forwarded either to Messrs. T. & CO., or to a town agent, two days antecedent to sale. A deposit of 25 per cent. to be paid on all purchases of shares, and the residue within three days of the date of sale.

Plans, Sections, together with Reports of Mines in every district, obtained from practical agents at the shortest notice, and upon the most economical terms.

Messrs. R. T. & CO. further request that agents and resident shareholders in Cornwall and other mines, will forward to their offices, for the inspection of London shareholders in mines the two-monthly statements of accounts, together with other information likely to affect the value of shares; in return for which they will be happy to render them at all times every service in their power, and promote the general success of mining, by diffusing correct and detailed information to the public respecting the position and legitimacy of British mining.

The following is a list of some of the dividend-paying and other mines:—

West Buller	Condarrow	South Tamar
Carn Brea	Cook's Kitchen	Tamar Consols
Soton	East Wheal Francis	The Worthing
Devon Great Consols	East Crobar & Penbrook	Trevelyan
Stray Park	East Wheal Russell	Trevelyan Consols
Trevillock and Barrier	East Wheal Croft	Wellington Mines
Tincroft	East Wheal Reith	West Goginan
South Basset	Gustavus Mines	West Polgoth
South Frances	Great Wm. Baddern	West Seton
North Basset	Hawk's Point	West Frances
Wheal Reith	Holmbush	West Wheal Jewel
Levant	Lewis	West Treasury
South Tolgus	Pen-y-bank & Erglodd	West Par Consols
East Wheal Rose	Pendarves Consols	Wheal Tiphena
North Pool	Peter Tavy & Mary Tavy	Wheal Harriet
Alfred Consols	Rock Mines	Wheal Margaret
Bryntal	St. Aubyn and Grylls	
Comfort		

Among the shares submitted for sale, on Wednesday, the 18th inst., will be included some in most of the above mines.

### STIRLING'S PATENT YELLOW METALS.—Adapted for

SHEATHING, BOLT STAVES, BOLT NAILS, DECK NAILS, as reported by the late Mr. Owen, Supervisor of Metals to the Admiralty; also for PROPELLERS, FRAMEWORK SCREWS, PISTONS, CYLINDERS, COCKS (particularly where there is exposure to corrosion), RAILWAY CARriage AXLE BEARINGS, and for all machinery subject to friction.

Price per lb. in castings..... 9d.  
Ditto in forgings and rollings..... 8d.

### AGENTS.

Messrs. GARDEN & MACANDREW, 34, Dowgate-hill, London.

Messrs. JOHNSON, 166, Buchanan-street, Glasgow.

Applications for licenses and other information to be addressed to the undersigned, at Garden and Macandrew's, No. 34, Dowgate-hill. ALFRED BARRETT, Manager.

### CRAUFORD HOUSE

CLASSICAL, MATHEMATICAL, & CHEMICAL SCHOOL, MAIDENHEAD, BERKS.

In this School it is sought to combine the development of the physical, moral, and intellectual powers with the acquisition of knowledge, and to make the course of study an introduction to the pursuits of life.

Crauford House, with spacious dormitories, dining, school, and play rooms, was erected four years ago, expressly for educational purposes; and since that time the establishment has been exempted from illness. The situation is elevated, in the vicinity of the Thames, the scenery extended and picturesque, the air bracing, and the grounds comprise 14 acres.

Besides the usual studies of Classical Schools, GERMAN and FRENCH are spoken—the latter language daily, with the assistance of natives, until Four o'clock. Mathematics are taught, theoretically and practically; there are drawing and singing classes. Physical science is pursued progressively, and the recently erected laboratory is devoted to chemical analysis, now so essential to the miner, agriculturist, and manufacturer.

Mr. J. D. M. Pearce, A.M., will be happy to forward prospectuses and references in answer to applications.

### SCHOOL OF MINERALOGY, CHEMISTRY, AND

GENERAL SCIENCE.

MESSRS. NESBITT'S ACADEMY, No. 38, KENNINGTON-LANE, LAMBETH, NEAR LONDON.

In this SCHOOL, in addition to all the branches of a good education, EVERY FACILITY is AFFORDED for obtaining a knowledge of ANALYTICAL CHEMISTRY and NATURAL SCIENCE, applied to the Arts, Manufactures, and Agriculture.

The pupils are practically taught in the Laboratories, which are fitted up with every essential for the most extensive chemical investigations.

Mr. Nesbitt's works on Land Surveying, Mensuration, Gauging, Arithmetic, English Parsing, &c., may be had of all booksellers.

References.—Dr. D. B. Reid, F.R.S.E., &c., House of Commons, Westminster; R. Prosser, Esq., C.E., Birmingham; J. L. Bullock, Esq., Editor of *Prescient's Chemical Analysis*, Conduit-street, Regent-street; J. Gardner, Esq., M.D., Editor of *Lieber's Letters*, &c., Mortimer-street, Portland-place; and W. Shaw, Esq., Strand, London.

### UNDER BRITISH AND FOREIGN LETTERS PATENT.

HUTCHINSON'S STONE, BRICKS, &c.—TO LAND PROPRIETORS, ENGINEERS, ARCHITECTS, &c.—THE SOFTEST STONE, CHALK, GYPSUM, CLAY, SAND, &c., INDURATED AS HARD AS GRANITE—will never vegetate nor disintegrate, being impervious to atmospheric action, &c.

For all Foundations, external and internal Buildings, Docks and Sea Walls, Sewerage, Paving, Decorative and Monumental Works, the HUTCHINSON'S MATERIALS are unequalled for durability and low cost.—(See Testimonials and Prices.)

PASTEBORD, SOFT WOOD, and other ABSORBENT MATERIALS, rendered WATERPROOF, and impervious from weather, vermin, &c.

LICENSES GRANTED ON LIBERAL TERMS.

Apply to Wm. HUTCHINSON, Hutchinson's Stone Works, &c., Tunbridge Wells, Kent.

**TO COLLIERY PROPRIETORS.**—A Gentleman, possessing considerable Mercantile knowledge, and having first-rate connection with Buyers of Steam and House Coal, will shortly be DISENGAGED from the SUPERINTENDENCE of a very extensive SHIPPING BUSINESS, which he has successfully conducted for the last 14 years, wishes to meet with a SIMILAR APPOINTMENT.—Address "C. L.," care of Mr. Perks, news agent, 111, St. Martin's-lane.

### TO COAL AGENTS, VIEWERS, SURVEYORS, &c.

The PROPRIETOR of a COAL PROPERTY in SOUTH WALES, containing about 300 acres, wishes to MEET with a PERSON competent to the MANAGEMENT and PRACTICAL WORKING of a COLLIERY, who can command a sum not less than £1000 to invest in the undertaking: this is an opportunity for deriving a good income, with a small outlay, rarely to be met with. Satisfactory references will be required.

For particulars apply by letter, addressed "A. Z.," to the care of Mr. Satchell, No. 158, Fenchurch-street, London; and application may also be made at the office of Mr. Evan Hopkins, C.E., F.G.S., &c., Consulting Mining Engineer, 13, Austinfriars, London.

**SITUATION WANTED,** as MINING AGENT or BAILIFF, and to KEEP MINING ACCOUNTS, by one who has been in his last situation for twelve years. Respectable references can be given.—Address "S. H.," at the Post-office, Chesterfield.

### STEAM-ENGINE.—WANTED TO PURCHASE, a NEW

or good SECOND-HAND PORTABLE HIGH-PRESSURE STEAM-ENGINE, of about 32-horse power, with or without boilers, to work a rolling-mill.—Apply, with full particulars and price, to Messrs. French and Smith, metal brokers, No. 14, St. Benet's-place, Gracechurch-street, London.

### WATER-WHEEL WANTED.—WANTED, a good

SECOND-HAND WATER-WHEEL, about 40-feet diameter, and 34 or 4-feet breast.—Tenders, stating particulars and lowest cash price, to be addressed to Mr. W. B. Harvey, Tavistock, on or before the 28th inst.—Dec. 13, 1850.

### VALUABLE MINES.—A FEW SHARES in the well-known

CRAFTNANT COPPER MINE TO BE DISPOSED OF.—Apply, by letter (post paid), addressed to "A. B.," Post-office, Chester.

### RUNNARD COOMBE MINE.—FIFTY-EIGHT

SHARES in this MINE TO BE SOLD FOR ONE HUNDRED and TWENTY POUNDS. There is £14,000 worth of ore already discovered, and only waits to be got up, and it is not proved to any thing like its extent. These shares are fetching £3 and £4 each, but the owner of the above wishes to realise at once.—Apply on or before Wednesday next, to C. J. Holmes, Esq., 153, Fenchurch-street.

### BODMIN MOOR CONSOLS.—Notice is hereby given, that

the OFFICES of the above Mines are REMOVED TO No. 11, AUSTINFRIARS, CITY, where prospectuses and reports can be had. HENRY HORNE, Purser.

### WHEAL TOM, DEER PARK.—Notice is hereby given, that

the OFFICES of the above Mine are REMOVED TO No. 11, AUSTINFRIARS, CITY, where prospectuses and reports can be had. HENRY HORNE, Purser.

### MINING COMPANY OF WALES.—PROSPECTUSES,

containing REPORTS on the MINES and QUARRIES of the COMPANY, Terms and Conditions for its Government, &c., may be had of ST. PIERRE FOLEY, Secretary, to whom letters on the allotment of shares, and on the general business of the Company, are to be addressed.—Offices, 24, Lincoln's Inn-fields, London.

### ASSAYING AND ANALYSIS.—ASSAYS and ANALYSES

OF MINERALS, METALS, SOILS, FURNACE, and all other MANUFACTURING PRODUCTS. INVENTORS and INTENDING PATENTEES assisted in PERFECTING any INVENTION involving an intimate knowledge of chemistry. INSTRUCTIONS in all branches of ASSAYING, ANALYSIS, and METALLURGICAL and MANUFACTURING CHEMISTRY.

Communications to be addressed to Mr. Mitchell, 23, Hawley-road, Kentish Town.

### CHEMICAL ANALYSIS, &c.—ANALYSIS and ASSAYS,

or INVESTIGATIONS of ANY KIND, are UNDERTAKEN at the COLLEGE OF CHEMISTRY, LIVERPOOL.

Professor—Dr. SHERIDAN MURPHY, F.R.S.E.  
Hon. Assistant—Mr. JOSEPH DANSON, F.C.S.

A list of Fees for Analysis, and for Students Working in the Laboratory, may be obtained by writing to Dr. Murphy, College of Chemistry, Liverpool.

### MR. JOHN DAVIES, MINING SHAREBROKER,

No. 38, TOWER-BUILDINGS, TOWER-GARDEN, LIVERPOOL.

### MR. JOSEPH J. BAKER, METAL BROKER AND

GENERAL COMMISSION AGENT, WOLVERHAMPTON.

### MR. JAMES STRIDE, MINING SHARE AGENT

(Late of Spring-Gardens),  
No. 111 B, JERMYN-STREET, ST. JAMES'S, LONDON.

### MESSRS. BOXALL & CO., MINING SHARE DEALERS,

5, CROSBY HALL CHAMBERS, BISHOPSGATE-STREET.

### MINING PROPERTY.—BUSINESS transacted in every

description of MINING PROPERTY, SHARES BOUGHT and SOLD, ADVICE GIVEN TO PARTIES as to INVESTMENT, ADVANCES OF MONEY MADE on this DESCRIPTION OF PROPERTY, Statistics given on Mines, and the earliest information obtained from the mineral districts.—Apply to DURRANT & CO., Mining Sharebrokers, 58, Lombard-street.

### MINING SHARES.—MR. JOHN CREFT, No. 1, ROYAL

EXCHANGE-BUILDINGS, LONDON, OFFERS his SERVICES, ON COMMISSION, to BUY and SELL MINING SHARES, and will select for capitalists those with the greatest chance of success, and take pleasure in furnishing a list of prices, together with all particulars.

### MINING OFFICES.—48, THREADNEEDLE-STREET,

LONDON.—Messrs. T. FULLER & CO. beg respectfully to inform the public that they are in a position to BUY and SELL SHARES in all the DIVIDEND-PAYING MINES, and have on hand Devon Great Consols, Levant, North Vinton, West Caradon, Bedford United, Peter Tavy and Mary Tavy Consols, South Carr Brea, Warleggan Consols, Calstock Consols, Wheal Russell, East Wheal Russell, West Goginan, Wheal Harris, &c. &c.—Mining shares by y from 15 to 30 per cent.

### MINING OFFICES, ST. MICHAEL'S CHAMBERS,

ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MR. R. TRIPP, MINING AGENT, has FOR SALE SHARES in most of the best DIVIDEND-PAYING MINES and others, which will pay the purchaser, at present prices, from 15 to 35 per cent.

### MINES.—MOLYNEUX & CO., 6, FINSBURY-PLACE

SOUTH, and 6, WEST-STREET, FINSBURY-CIRCUS, have SHARES FOR SALE in DIVIDEND-PAYING and OTHER MINES, which will ensure to capitalists the safest and most unexceptionable investment.—Office hours from Ten to Five o'clock.

### MANUEL AND CO., MINING AGENTS, are instructed to

SELL in the following DIVIDEND-PAYING and OTHER MINES:—South Caradon, Great Wheal Baddern, Runnford Coombe, Great Wheal Michell, West Wheal Rose, Wheal Emily, Pentire Glaze, and others.—Office, 42, Fish-street-hill, London.

### RAILWAY SHARES.—PUBLIC AUCTION.

MESSRS. R. TREDINNICK & CO. beg to inform the public that they intend to SELL, BY PUBLIC AUCTION, every DESCRIPTION of MINING and RAILWAY PROPERTY



## Transactions of Scientific Bodies.

## MEETINGS DURING THE ENSUING WEEK.

MONDAY	Statistical, 14, St. James's-square	8 P.M.
	British Architects—16, Grosvenor-street	8 P.M.
	Chemical—142, Strand	8 P.M.
TUESDAY	London—Soho-square	8 P.M.
	Civil Engineers—25, Great George-street	8 P.M.
	Pathological—33, George-street, Hanover-square	8 P.M.
WEDNESDAY	Society of Arts—Adelphi	8 P.M.
	Geological—Somerset-house	8 P.M.
THURSDAY	Royal—Somerset-house	8 P.M.
	Antiquaries—Somerset-house	8 P.M.
SATURDAY	Medical—33, George-street, Hanover-square	8 P.M.

## GEOLOGICAL SOCIETY.

Dec. 4.—Sir CHARLES LYELL (president), in the chair.

The following communications were read:—1. On the Geology of the Upper Punjab and Peshawar. By Major VICARY. During a hurried march to the Khyber Pass, the author noticed the existence of a deep-bedded and extensive Pliocene formation, stretching, with intervals, from the Jhilum River to the Khyber Range. In the hills running north-east from Moong and Rusalpoor towards Bimber, Major Vicary observed yellow marly clays, with beds of pale soft sandstone—the whole capped with conglomerate; there were also some thin beds of travertine observed; here, however, he detected no fossils. Some of the hills north of this range strongly reminded the author of the Scinde Hills, and he here found some boulders of nummulitic limestone. The road towards the Bukkur-Allee Pass leads along the Kahan River, the sections afforded by which show thick yellow clays, sandstone, and conglomerate—the two former containing *Helices* and *Papae*. Similar beds at the village of Bukkur-Allee contain fossil bones of Pachyderms, Ruminants, Saurians, and Chelonians, and assume the characters common to the Sewalik Hills, at the base of the Himalayas, near Nahn. Near the Bukkur-Allee Pass these clays have been removed, and there appear red shales and clays, sandstone, and conglomerate, which the author considers to be of Eocene age, and the same formation as that so productive of salt, near Pind-Dadun-Khan. These are seen at intervals as far as Jiancee Sung, near the base of the Mur-gullee Range. Temiak, about a mile from the Bukkur-Allee Pass, is situated on Pliocene beds, which probably extend into Peshawar, and even to the Khyber Pass. On the Sahar River, near Temiak, good sections of these beds occur. The Pliocene beds are interrupted by the Mur-gullee range, in which Nummulitic limestones are found; they then stretch away from the base of these hills to the slate mountains, on which Fort Attock stands. The author next met with the Pliocene near the village Nawazera, on the Cauhal River—he also found it even in the mouth of the Khyber Pass; at the base, however, of the Khyber Mountains it is usually replaced by boulders and gravel. The limestone rocks of the Khyber Range afford *Spizifer*, *Orthis*, *Terebratula*, and other palaeozoic fossils, probably of carboniferous age.

## 2. Report on the Coal Mines near Erzzerom.

3. On the Silurian Rocks and Graptolites of Dumfriesshire. By R. HARKNESS, Esq. The author observed that the county of Dumfriesshire affords four geological formations, exclusive of the superficial deposits of sand, gravel, and clay, representing the boulder series. The new red sandstone occurs in five isolated patches, in some cases lying widely remote from each other. Two coal-fields are met with—one at the eastern extremity of the county, and the other at the north-western—the latter being a portion of the Ayrshire coal formation. The mountain limestone is represented by a band of limestone, grit, and shales, running along the southern margin of the Silurian district, and also by two small patches in the parishes of Closeburn and Keir. The remaining part of the county is exclusively occupied by the Silurian formation, which covers an area more than twice the size of that which the three other formations possess conjointly. Mr. Harkness then proceeded to describe three parallel bands of anthracite, accompanied with shales, traversing the Silurian rocks from north-east to south-west, in the north-eastern portion of Dumfriesshire. These appear to have been originally one continuous bed, which, together with the grauwacke of the district, has been broken up by the intrusion of igneous rocks. The Silurian strata are greatly disturbed, the dip generally being towards the N.W., at a high angle. On the borders of Selkirkshire, near Craigmichael Scar, the anthracite beds are considerably developed. These three bands are no doubt attributable to a succession of faults running through the district in a direction parallel to the strike and range of the grauwacke chain, and bringing up at intervals the anthracite beds and the graptolite shales—the consequence being a repetition of the same beds in a series of bands. Graptolites occur sparingly in the anthracite, but are very abundant and well preserved in the overlying shale. Mr. Harkness had detected about 12 forms of these interesting zoophytes, of which not above two or three had been previously observed in the British Isles. The author concluded with some observations on the Silurian rocks and fossils of Kirkcudbrightshire.

The following papers are to be read on the 18th Dec.:—1. On the Epiolithic Rocks of the Venetian Alps; by Professor A. T. CATALLO.—2. On the Mineral Springs of Vichy; by Sir R. L. MURCHISON, F.G.S., &c.—3. Report on a New Combustible Substance (Pungerite) discovered in Russia.

## INSTITUTION OF CIVIL ENGINEERS.

DECEMBER 10.—WILLIAM CUBITT, Esq. (president), in the chair.

The discussion on Mr. STRUVÉ's paper, on "The Ventilation of Collieries, theoretically and practically considered," was continued throughout the evening.

The steam jet, in its application to the upcast shaft, was again considered; it was argued that, like the furnace, it did not produce any pulsation in the current of air, which was so very wasteful of the power for giving motion to all means of mechanical ventilation, and, therefore, that by the accepted laws of physics, the steam jet setting in motion a body of air which continued to flow without intermission through the galleries and upcast shaft, subject only to the deduction for the pressure of the atmosphere, and the friction of the column of air on the surface over which it passed. It was shown that, to obtain the full and effective action of the steam jet, precautions must be adopted, in bringing it down a certain distance, so that the jet should act conically, and a variation of the distance between the jet and the extremity or apex of the inverted cone, would produce a corresponding variation in the degree of rarefaction. The jet was stated to act equally efficiently either at the top or the bottom of the shaft, although it was admitted to be more costly in the former situation. Its application at the Ebbw Vale Collieries was asserted to be very effective, and as only the surplus steam was employed, it was in that instance the most economical system that could be used. On the other hand, it was contended that in mechanical ventilation the pulsation of the air was only perceived where the valves were heavy, or were of contracted area; that, practically, it was more to be relied on than any other system, and that the safety afforded by it was superior to the furnace or the steam jet, as under circumstances of danger, or after an explosion, it could be brought into immediate action, with increased energy, to meet the emergency, and be the means of saving human life. In summing up the discussion, the evidence given before the House of Lords in 1849 was again minutely analysed, with the view of showing that the deductions previously drawn were not correct, inasmuch as the results obtained were owing to temperature, and not to the exhaustion created by the steam jet. The published opinion of M. Combes,—"that the useful effect of the steam employed to produce the motion of the air, by projecting it into a tube, is in all cases much below what it is capable of producing when applied to a steam-engine working mechanical ventilators of the most imperfect description," was quoted in support of these views. It was considered, that a current of air in the upcast shaft of at least 18 feet per second was most desirable, to produce which a motive column of air of 167 feet would be requisite, and this could not be attained where ventilation by means of a furnace, or of a steam jet at the bottom of the pit was used, without raising the temperature to such a degree as would be impracticable in bratticed shafts, or in shafts used for winding coals, or for the passage of men. It was then shown, that the steam jet applied at the top of the upcast shaft, and acting merely by rarefaction, would be too costly for general adoption; whereas, if the combined area of the pumps of Struvé's mine ventilator was sufficiently large to equal the aggregate amount of the splittings of the colliery, it would only require one-sixth of one horse-power for every superficial foot of the upcast shaft. It was shown, that no pulsation in the current of air was perceptible in the Eaglesbus Colliery (where Struvé's mine ventilator had been in use for nearly two years) at a greater distance than 100 yards from the machine, and could not, therefore, extend prejudicially into the workings. It was mentioned that two other machines, similar in those in use at the Eaglesbus Colliery, were in progress of construction for two collieries in the neighbourhood of Swansea. M. Leteret, an eminent mining engineer, had asserted that no similar machine to Mr. Struvé's had ever been used in Belgium, and that he thought it, both for utility and economy, superior to any mechanical ventilation which had yet been introduced.

At the close of the regular business, Mr. Beckers exhibited and described a self-acting sliding-stop, which was now in use on the Great Western Railway. A portion of the ordinary rail was cut so as to admit of the movement of the stop, which was of iron, about 1½ inch thick, and projected above the rail about 9 inches; this was attached to one end of a shaft, and on the other end there was a bent lever, which carried a signal-disc above, and a counterbalance weight below. The object of this simple and inexpensive machine was to remove the liability to accidents from carriages, or trucks running out of a siding on the main line, as occurred some time since at Wootton Bassett; for whilst it permitted a train of waggons to pass into the siding, the wheels themselves depressing the stop, it presented an absolute bar to any wagon leaving the siding, unless a person held down the lever, so as to lower and remove the impediment.

## PROFESSOR TENNANT'S LECTURES ON MINERALOGY—ACIDIFEROUS EARTHY MINERALS—CALCAREOUS SPAR.

On Wednesday, in his lecture at King's College, Professor TENNANT commenced a new division of the general subject—viz, the "Acidiferous Earthy Minerals of Phillips," under which head were comprised minerals which consisted chiefly of an earth combined with an acid—the other ingredients occasionally formed in some of them being only incidental. The first of them was—

*Websterite*, or the sub-sulphate of alumina, which was found in nodular concretions distributed through the chalk formations. It occurred in different parts of Sussex, and particularly in the neighbourhood of Newhaven. It was white, very soft, and occasionally adhered to the tongue. Although it was called after the late Professor Webster, who, for many years, was secretary of the Geological Society, it was a purely chemical combination, and need not have been named after an individual, which invested it with a cognomen which told nothing of its nature or history. It was light and infusible, and consisted of alumina 30, sulphuric acid 23, and no less than 47 parts of water. If, therefore, it was analysed as soon as it was taken from the pit, it would give a different result to that which it would present after exposure to the atmosphere.

*Wavelite*, so called in honour of Dr. Wavel, its discoverer, was also purely a chemical combination, and was often designated the sub-phosphate of alumina. It was found in small radiating crystals upon clay-slate, chiefly in Devonshire, and in the neighbourhood of Cork. These crystals were deposited in fissures of the clay-slate, and when the fissures were very close they would be found in star-like radiations. Those from Cork were of a greener colour than those from Devonshire, but they seldom exceeded in size the area of a sixpence. It was also found in Cornwall, in the Highlands, in Bohemia, the Brazil, and South America. When viewed through a microscope, the ends of the radiations exhibited very minute crystals. Its chemical composition was alumina 35, phosphoric acid 33, a small trace of fluor, a little of the oxides of iron and manganese, and 26 per cent. of water.

*Childrenite* was found near Tavistock in small crystals, accompanying carbonate of iron, where it had been obtained in large quantities during the last few years.

*Carbonate of Lime*, the purest form of which was *calcareous spar*, was found in considerable quantities in all the limestone rocks; it was a substance which had undergone the most interesting modifications. *Calcareous spar* occurred in very large double six-sided pyramids, which in Derbyshire were called "dogtooth spar," from a fancied resemblance to the canine tooth. The largest crystals of late had assumed, among the miners, the name of "elephants' teeth"—not a very happy cognomen. The caverns in the neighbourhood of Matlock were lined with these crystals (of which the lecturer exhibited some fine specimens). The primary form was a rhomboid (fig. 1.), but its variations were most numerous, and no fewer than 860 crystals of this mineral had been described. The Count de Bournon had described 59 modifications of the primitive form, and 616 varieties of crystals, all of which he had figured in his work. The Count had also described 63 additional varieties of form, arising from a greater or less extent of the faces

Fig. 1.



of the crystals.

Fig. 2.

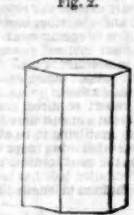


Fig. 3.

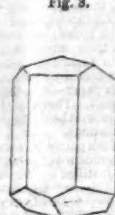


Fig. 4.



of the crystals. The lecturer exhibited a number of crystals, amongst which were six-sided prisms from the Harts (fig. 2.); six-sided prisms, having three pentagonal faces at each end, from Cumberland (fig. 3.); double six-sided pyramids from Matlock (fig. 4.), besides many interesting specimens from other localities. The crystals, however, might be divided into three great classes—prisms, the acute rhomboids, and the obtuse rhomboids. Matted crystals were sometimes also found in Derbyshire and elsewhere.

The angle of the primary form was  $105^{\circ} 5'$  by  $76^{\circ} 55'$ . A most remarkable peculiarity of this mineral was, that let it be divided as minutely as possible, even if it were powdered in a mortar, and the particles rendered almost invisible without a microscope, every fragment and every atom would be found to take the rhombic form. Another quality was, that it would scratch with a knife or even brass, and by that means might be readily distinguished from quartz, when it might be difficult otherwise to perceive the difference, from the specimens presenting a similar appearance and the same crystalline form. Its number in the scale of hardness was 3, while quartz was number 7. Cleavage also furnished another

Fig. 5.

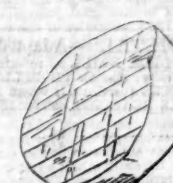


Fig. 6.



unerring test—calcareous spar always breaking into rhomboids (fig. 5.), while quartz exhibited a conchoidal fracture (fig. 6.). In some cases the cleavage planes of calcareous spar were parallel to the smooth surfaces, and occasionally, but very rarely, a conchoidal fracture might be obtained. Carbonate of lime was associated very much with lead ore; calcareous spar and quartz were the most abundant of the substances in association with the metallic minerals. *Calcareous spar* was remarkable for showing in some of its purer varieties a double refraction; and this quality was illustrated by means of several very ingenious wire and pasteboard models—a portion of an admirable series destined for the Great Exhibition, by which the science of crystallography might be expected to be greatly facilitated. The Rev. W. Mitchell was the ingenious designer and constructor of these clever models, which the lecturer stated must materially aid the students in acquiring a knowledge of this somewhat intricate, although interesting and useful, branch of mineralogy.

*Stalactites* were found in grotesque groups and shapes in caverns in limestone districts, and varied in length from half an inch to several yards. *Stalactites* were so called from being pendant from the roof; when they were concretions on the floor, they were called *stalagmites*. The fossils of extinct animals in the Kirkdale Cave, Yorkshire, so ably described by Professor Buckland, were found entombed in stalagmites. It was these droppings from the roof that formed the alabaster of the ancients, or carbonate of lime—that now called alabaster being sulphate of lime. The magnificent sarcophagus in Sir John Soane's Museum, for which 1000*l.* was paid to Belzoni, so richly sculptured, that it was worth more than that sum as a work of ancient art, independently of its historical value, was of this material. It was, as might be expected from its remote antiquity, a good deal corroded, but if it was polished, it would be found semi-transparent. Indeed, there were one or two places which, when a light was held behind them, put on a beautiful amber-coloured appearance.

At the new Geological Museum, in Jermyn-street, would be found a very fine table of this substance, presented by Prince Albert. The Duke of Devonshire also had several, one of which was placed in a window on the grand staircase, and when his Grace had company a light was placed behind it, and it thus presented a most beautiful appearance. The smaller stalactites were generally a purer limestone than the larger ones, and the smaller would, therefore, often break with the same cleavage form as the crystals. *Stalactites* were sometimes found with very fantastic radiations from their sides. These Professor Buckland accounted for by supposing the cavity partly filled with water, and thus, when the pendant reached

the surface of the water, the material would be held up and enabled to shoot from the sides. In the Museum at Oxford were some remarkable specimens of this kind. All these substances were the result of a peculiarity connected with limestone and its relations to water. Water, when heated, would hold a much larger quantity of almost every other substance in solution than when cold; but in the case of lime it was just the reverse. And so, when water was heated in our tea-kettles, or in steam-boilers, large deposits of carbonate of lime took place, if it were much impregnated with lime. In Derbyshire, steam-boilers had to be cleaned out once a week, whereas once in two or three months was sufficient in other localities. It was, then, this precipitation which produced stalagmites. A large stalagmitic table had lately been presented to the British Museum by the Duke of Rutland, which had been brought from his lead mines near Bakewell, in Derbyshire. In Scotland-yard Museum there were several very fine specimens from Bermuda.

The lecturer here exhibited a remarkable deposit of carbonate of lime which had lined the interior of a wooden spout at a coal mine near Carlisle, and it represented exactly the grain and every inequality of the wood. This specimen attracted the particular attention of Prince Albert, when, with the Duke of Württemberg, he honoured the College Museum with a visit. His Royal Highness said he remembered inspecting a similar calcareous deposit when a boy, and that he had thrust a stick into the spout, and a year afterwards it was also found to be coated with spar. The Duke apparently was a water drinker, for the Prince jocosely remarked that he must be careful, or his stomach would be lined with a calcareous deposit of the same description. (Laughter.) There were several springs having this peculiarity in Italy. At the hot baths of San Philippo, in Tuscany, the water, which was impregnated with carbonate of lime, was made to fall in very minute drops into moulds, representing various works of art in relief, and in a few months a beautiful white deposit was made, sufficiently hard, and faithfully exhibiting the bas-relief. By a similar process, the curiosities of the petrifying wells at Matlock and Knaresborough were produced; and at this season a visitor would find baskets of eggs, sheep's heads, wigs, and all sorts of things intended for sale in a petrified state next season, just deposited. These articles are not, as the natives averred, converted into stone; but merely incrustated with the earthy matter deposited on them by the water, which were generally an impure carbonate of lime.—The lecture concluded with a brief explanation of a large diagram representing sections of the crust of the earth, in which appeared the deposits of limestones, sandstones, clays, the granite and protrusive rocks, &c.

## THE CONWAY AND BRITANNIA BRIDGES.

Two lectures have been delivered by E. Wheeler, Esq., C.E., on the History, Principles, and Construction of the Conway and Britannia Tubular Iron Bridges, at the Literary Society, Islington. At the first lecture (which was illustrated by models, &c., judiciously chosen, to render the subject intelligible and interesting), after explaining the reason why suspension bridges are but little used for railway traffic, and stating some of the difficulties of applying arched bridges to the requirements of the Chester and Holyhead Railway at Conway and at Bangor, the lecturer showed that past experience in the art of constructing girder or beam bridges had contributed little to the science of such structures as were required to span the Conway River and the Menai Straits. After some observations on the condition of the materials, and the respective forces operating on bridges of various kinds, specimens of cast-iron and wrought-iron were exhibited. The crystalline structure of the former indicated its capability of resisting the crushing force; while the great power of wrought-iron to sustain a tensile strain might be inferred from its fibrous texture. In a tabular form the comparative tenacity of various metals, and of iron bars, rods, and wire, were noticed as having led to the construction of iron and steel-wire suspension bridges. The relative strength of solid and hollow cylinders, exemplified in nature by the hollow bones of animals, the quill portion of a feather, and the stems of reeds and grasses, are inimitable models of forms combining the greatest strength with the greatest economy of material. It was then shown that, within certain definite limits, a hollow iron cylinder will be stronger than a solid one of equal weight and length, exactly in the ratio of their external diameters.

Mr. Wheeler gave an excellent digest of a series of experiments conducted by Messrs. Eaton, Hodgkinson, and Wm. Fairbairn, at a cost of 6530*l.*, and occupying eighteen months prior to the commencement of the tubular bridges.

Six experiments on a model (the prototype of one of the Conway tubes) and one-sixth of its dimensions in every respect, showed that by the judicious addition of about 1 ton of iron to a model beam weighing originally only 5½ tons, its breaking weight was increased from 35½ to 86 tons. This model tube, 7½ ft. long, 4 ft. 6 in. high, 2 ft. 8 in. wide, constructed of plate-iron only ¼th of an inch thick, proved itself capable of bearing more than four times the weight of an ordinary train. The reasons for adopting a cellular form in the top and bottom of the tube were made obvious, and the mechanical construction of these and other parts was explained by full-sized models of each. The arrangements designed to meet the effects of changes in the temperature of the bridge were next shown; the expansion of each tube being about the ¼th of an inch in length for every degree Fah. The daily thermometric changes in the atmosphere are nowhere more faithfully registered than by this iron pen of above 1000 tons weight.

A general description of the Conway Bridge, with its dimensions, weight, cost, &c., was followed by some astonishing details of the trials of its rigidity and strength, and forcibly exhibited more than once that exact correspondence between sound theory and practice which has stamped the history of these wonderful structures. The predictions that the Conway tubes would be deflected 9 inches by their own weight when supported only at each end, with a further temporary deflection of 1 inch for every 100 tons load, were realised within ¼th of an inch. The theoretically estimated permanent set of ¼th of an inch for every 100 tons load was exhibited in practice with all the exactness that the mathematician could desire. The trustworthiness of the Conway Bridge is proved from its having been two years in use, and not having exhibited any change either in level or form; its deflection from the passing of an ordinary train is less than ¼th of an inch. The subject of the second lecture (which we shall give next week) will be the Britannia Bridge, the particulars of which can hardly prove less interesting to every admirer of those proud creations of British capital and British skill, ranked as they may be with propriety as the wonders of the world.

**SUBSTITUTE FOR SILVER IN ORNAMENTATION.**—It is stated, apparently on good authority, that a French chemist, M. Chaudron Junot, of Bussy, has succeeded in reducing to the metallic state, by exceedingly easy means, a great many bodies which have not hitherto been seen in that condition. He classifies his substances in two series:—The first comprehending silicium, tantalum, titanium, chromium, tungsten, molybdenum and uranium; these second embraces magnesium, aluminium, and barium. The metals in the first series are completely indissoluble, and perfectly resist the action of strong acids; and some of them are not affected by even the nitromuriatic acid, which it is well known dissolves even gold and silver. It is expected that these will replace platinum in many of its applications, their cost, it is stated, being 80 per cent. less than the cost of that metal. The second series are not affected by a dry or moist atmosphere, though they are acted on by acids; and it is proposed to apply them to many purposes of ornamentation, for which silver is now employed. These metals are all white, the degree of whiteness and brilliancy varying from that of platinum to that of the purest silver. The reduction of silicium is said to be beautifully perfect; and we are told that the Minister of Commerce has taken the most lively interest in the progress of M. Chaudron Junot's discoveries. We give the above statement, since it is published apparently in good faith; but we shall not be surprised to find that the discoverer and the Minister have allowed themselves to be deceived.—*Athenaeum.*

The great chimney at St. Rollox is 455 feet high above the foundation, being five feet higher than the summit of the highest building in Edinburgh Castle above the level of the sea: it is 40 feet diameter at the base, and 13 feet at the top, and is built entirely of brick. The large chimney at the Gas Works in Edinburgh is 341 feet high from the foundation: the pedestal is of stone, 77½ ft. high; the foundation being 40 feet square. The rest of the chimney is of brick, made at Joppa, and found capable of sustaining a crushing weight of 440 tons to the square foot. It is 15 in. thick at the top, increasing to 85 in. at the pedestal; the internal diameter being 20 ft. at the bottom, and 11½ ft. at the top.

**HOLLOWAY'S OINTMENT AND PILLS HAVE CURED A BAD LEG, AFTER EVERY OTHER REMEDY FAILED.**—John Eastman, Esq., of Buenos Ayres, states in a letter to Prof. Holloway, dated Sept. 11th, 1850,—"That a native gentleman of that place hurt his leg some time ago, which soon formed into a wound, which gradually increased, until it spread from the foot to the knee; he was under the medical attendance of a native doctor for several months, but his remedies had no good effect whatever; he thereupon deemed it advisable to have recourse to Holloway's ointment and pills, which have effected a perfect cure of his leg, and he now enjoys the best of health."—Sold by all druggists, and at Professor Holloway's Establishment, 244, Strand, London.



*(continued)*



# THE MINING JOURNAL.

## Mining Correspondence.

### BRITISH MINES.

**ALFRED CONSOLS.**—Our sampmen are now engaged in putting in bearers under the 80 fm. level, for the purpose of fixing drawing lift at said level, preparatory to fixing the plunger lift in the 70 fm. level. The lode in the 80 fm. level, east of Field's engine-shaft, is from 3 to 5 ft. wide, on the north part of which there is a branch from 2 to 3 ft. wide, containing munda, and some rich stones of copper ore, which we think is indicative of something good not far east. The stope referred to in the last report, west of No. 1 winze, are looking extremely well, the lode here being from 6 to 7 ft. wide, and 5 ft. of the south part is almost solid ore, worth from 80 to 100 lb. per fm. The lode in No. 2 winze, sinking under the 70 fm. level, east of said shaft, is from 4 to 5 ft. wide, nearly all solid copper ore, worth quite 100 lb. per fm. The lode in the 70 fm. level, east of engine-shaft, is 7 ft. wide, worth quite 120 lb. per fm. The lode in the winze sinking under the 90 fm. level, west of Wyle's shaft, is from 10 to 11 ft. wide, worth at least 150 lb. per fm.; the lode in this winze has rapidly improved during the past week, and from all appearance we have every reason to believe that the lode in the 70 fm. level will be equal to that of the winze sinking under the 60 fm. level. There is no change to notice in the 60 fm. level, driving east, since the last report, nor in any other part of these mines.

**BARRISTOWN.**—The ground in the cross-cut is still favourable for driving, and with indications of the highest promise, such as small veins of lead mixed through the ground—the same being a full grain lead, almost clear from any waste. I cannot but believe that we shall shortly intersect a lode of some kind, and according to prospects, I expect a productive one. We drove in the cross-cut last month 6 fms. 1 ft. 10 in., and I hope we shall accomplish this month 7 fms., if we do not meet with a lode. The ground in the end east is favourable for the winze, and the lode in the winze looked very favourable, producing good stones of lead, but the lode is small and underlying more than it did. We shall push on this end as fast as possible, as also the cross-cut. The present price of the former is 21. per fm., and the latter, 21. 5s.

**BEDFORD UNITED.**—The ground in the cross-cut, driving south from the engine-shaft, continues to be hard and troublesome. The end has become wet, and contains some spots of ore in capel and spar, indications that the lode is near at hand. In the 115 fm. level, east of Andrew's winze, the lode is 3 ft. wide, composed of fluor-spar, munda, and ore; in the western end it is 3 ft. wide, and similar in character: in both ends the indications are highly promising. The lode in the 103 fm. level east is 5 ft. wide, and continues to be worth 10 tons of ore per fm.; the lode is rather larger than it was, but as it contains a little more spar, it does not yield more ore. In the 90 fm. level east the lode is 18 in. wide, producing little ore, and some stones of lead; the appearance of this end indicates improvement. The lode in Arscott's winze is from 3 to 4 ft. wide, and yields 8 tons of ore per fm. In the 80 fm. level the lode has not been taken down or cut into during the past month, and we continue to drive by the side of it. In the 47 cross-cut the ground is still favourable for driving, although it is now intermixed with a little capel and spar, showing that we are getting near to the lode. The tribute department is in the same healthy state as usual, and the produce of the lode from the 103 end, and from Arscott's winze, will add to our next sampling, which will be about 135 tons.

**BODMIN CONSOLS.**—Our sampmen are progressing very satisfactorily with the sinking of the engine-shaft, the ground is much improved; we are, I think, out of that hard channel of ground referred to in some former reports—this looks well for the next level. The shaft is now improved to 150 fms. In the 90 fm. level, east of leader part of the lode is about 14 ft. wide, producing good stones of lead, with spots of copper ore, arsenates, and carbonates of lead; the 13 fm. level south is as last reported, producing occasional stones of lead. In No. 2 winze we have some improvement—good stones of copper ore. I rather think we have the junction of the copper lode at this point.

**BODMIN MOOR CONSOLS.**—Capt. Peter Dunstan reports:—I have just returned from this mine, where I find a large lode, discovered near the surface, 10 feet wide, about 50 or 60 fms. west of the shaft, or may be more; the lode is of a very promising character, chiefly composed of capel and blue peat. I cannot tell exactly the bearing of the lode, from only having seen it opened on in one pit; but I strongly suspect that we have seen a part of it in the south part of the shaft, or, if that be not the case, it cannot be many fms. to the south, so that when we descend to 150 fms. deeper with our shaft, we shall not have many fms. to drive to cut it. I have arranged with Mr. Rogers to get down some more pits, that we may trace it down towards the stamps; by this we shall have a more correct knowledge of its bearing and character through the set. At the same time, I would beg to recommend to be as sparing as possible of all surface cost that is not absolutely necessary, and let us get on with the work in the shaft as fast as possible, where I think there is every probability of doing some good. The mine is looking exceedingly well as it comes from the stamps, and I think Mr. Rogers will be able to go to market in the course of next week.

**BRYN-ARIAN.**—The lode in the 20 fm. level is 7 ft. wide, producing fine stones of ore, and has improved since last report; but, about the middle of the week, we cut a large stream of water, which was expected to be kept by manual labour, therefore it is suspended until the pumps arrive, which are expected in 10 or 12 days; the men are now cutting a bob-pit, to prepare for putting in the lift. The lode in the 10 fm. level west is large, with small branches of ore; the stope in the back of this level is worked up against a slide, which has very much disordered it at present. The winze sinking under the adit level west is in a large lode, with good stones of ore; the stope in the back of this level is producing 15 cwt. of ore per fm. There are about 25 tons of ore at surface, 20 tons of which are clean.

**CARADON VALE.**—We are progressing here much to our satisfaction. The engine-shaft is sunk 71 fms. below the 14 fm. level under the adit; 5 fms. have been put down within the last four weeks. The men have to sink 61 fms. to complete their contract of 12 fms. below the 14 fm. level, and the purpose of sinking this distance is to get to the 14 fm. level before commencing to drive towards the lode; this, if done, would ground should continue as at present, will be completed in about 12 weeks from this date, and I have little doubt the result will be a course of copper ore, there being many branches that will intersect the lode between the 14 and the 20 fm. levels below it. In driving west in the 14 fm. level the ground has become easier, but there has been no other change worthy of remark. This level was set, on Friday last, at 30s. per fm.; it is not yet under the large lode met with in the level above.

**CARTHEW CONSOLS.**—In reporting of these mines to-day, I would first notice the engine-shaft. It will be remembered that a second slide has been met with in this shaft since we commenced sinking below the 70 fm. level, and further, that after we had got clear of the first slide the lode made good, much better than it was seen or has been seen, above it. We are now getting quickly through the second; and, from the stones of lead and copper we are now getting from the lode, though yet to a considerable degree mixed up with the slide, I am led to think that, when we get thoroughly clear of it, the lode will be found much richer than even under the first. It is not the appearance of the lode alone that makes this very favourable impression on my mind, but the beautiful strata in which it is embedded has also a great influence; and though we have had a good deal of water, and have a better one in the 75, I don't doubt the moment that the 55 fm. level will be found far superior to either. The improvements we meet with in going down, and the lengthening of the bunches of ore we have driven through, would almost warrant my stating, ere we reach there, that it will be so. The men are getting on again very well in sinking this week. In noticing the 75 fm. level end north, I have to inform you that the lode here continues very good; and, though not quite as large as it has been found at times, its productions of ore are not at all less—this part of it being more concentrated, which makes the same quantity of mineral more valuable, as we have not, from its improved quality, so great a quantity of stuff to handle over in the dressing department; and from this level we are now raising much larger than ordinary quantities with the same number of men. In the south end, in the 75 fm. level, I do not find any particular alteration; and, though a large and strong lode is to be seen for many fathoms in this level, I do not anticipate, from the dip of the bunches of ore above, much change yet for several fathoms to come. The lode in the south end, in the 65 fm. level is much improved since my last report; and although it is not so rich, yet it is a well-looking lode. The water having been drained from the south winze in the bottom of the 48 fm. level, which is about 20 fms. south of the middle shaft, we have recommenced sinking the same, and in it there is a very good lode—8 in. wide, which is nearly solid ore (lead and copper); and for 40 fms. to the north and south of this winze, in the bottom of this level, a very good lode is gone down. I had almost forgotten to notice the rise in the back of the 75 fm. level end north, which we this week commenced, and is intended to be communicated with the winze partly sunk in the bottom of the 65 fm. level; the lode here is about 2 ft. wide, and is a very good one. This rise will not only raise the 75 fm. level, but will, at the same time, prove the value of the ground from the adit to the bottom of the 65 fathoms level—at both of which points we have at present a very good lode.

**CEFN BRUNO.**—The lode in the winze-shaft is 3 to 4 ft. wide, with a very promising appearance, now yielding 3 tons of lead ore per fm. The shaft is down 25 fms. below the adit level, 12 fms. of which is sunk through good lode, averaging more than 2 tons of ore per fm. The lode in the adit level west is 2 ft. wide, good saving work.

**CWM ERFIN.**—The lode in the 30 fm. level east is not so good as it was, but still yields about 1 or 1 1/2 tons of ore per fathom. About the same produce is also obtained in the rise from this level. The 30 east is still poor, with a little ore.

**DYFNWGL.**—Since I last addressed you, the prospects in some parts of the mine are far more encouraging. The 32 fm. level west, although only driven during the past month 4 fms. 3 in., has improved in quality; the lode at present is 3 ft. wide, producing 1 ton of lead ore per fm. You will see by my former reports that the lode in this level has been engaged in taking down the lode in the rise about this level, and from where we first met with the lead ore, to the present end or breast, cutting pit, &c. We shall, if the ground continues as it is at present, drive this level in the ensuing month 24 fms. Having the above work now completed, and a free ventilation, we shall, without a doubt, be enabled to continue the driving of this level on to sink steel ore, without any hindrance whatever. In the 32 fm. level east the lode has proved unproductive; however, it seems now to be improving, and we are now driving it. In fact, it is now expected to see a decided improvement in this level very shortly; it has driven in the past nine weeks 9 fms. 0 ft. 4 in., at an average cost of 41. 10s. per fm. Stope No. 3, in bottom of 22 fm. level, east of shaft, is still looking well, producing about 1 ton of lead ore per fm.; we have excavated in the past five weeks 4 fms. 3 ft. 9 in., at an average cost of 21. 10s. per fm.; this stope is now producing 25 cwt. of lead ore per fm. Stope No. 4, in bottom of 22 fm. level, west of new winze-shaft, bids fair to make a lasting piece of good ore ground; stope in the month 4 fms. 3 ft. 9 in., at an average cost of 21. 10s. per fm.; this stope is now producing 25 cwt. of lead ore per fm. Stope No. 5, in the back of 22 fm. level, east of shaft, still holds good, worth 81. per fm.; stope in five weeks about 5 fms., at a cost of 21. 10s. per fm. In this stope, as well as in the other stopes and levels, the men have to pay 9s. per hundred kibbles for drawing, besides wheeling, cost of materials, &c. You will see by the accompanying setting list that we have been enabled to set two new stopes; one in the bottom of the 22 fm. level, east of Thomas's winze, and the other in the bottom of the adit level east and west of new winze-shaft. As to the produce of these stopes, I will endeavour to let you know their value in my next weekly report. We have cleared, secured, and cased the new winze-shaft from the adit to the 22 fm. level. We had to sink in the bottom of the adit level 9 ft. 9 in., and to stop several fathoms of ground above the 16 fm. level, to form a direct communication with the shaft above the 22 fm. level; we have commenced clearing above the adit level, but what quantity of hard ground we may have to cut through it is impossible to say correctly; however, we fully expect to draw through this shaft by the first week in January. Castle Whitmore engine-shaft is sunk 5 fms. 1 ft. below the 9 fm. level; we are sinking on the north part of the lode; the ground for the first 2 fms. proved very favourable for cutting, but recently it has become more difficult for breaking. In consequence of so many veins of carbonate of lime, and quartz, passing through it in different directions. The shaftmen fully expected to have sunk the 11 fms. shaft in 11 weeks, and, although the ground has proved against them, still I hope they will not be disappointed in their expectations. In our dressing department, having recently had much rainy weather, we have been enabled to crush a good heap of stuff. We have now several tons of lead ore in course of washing, and a large heap of good work on the floors. We have recently erected a good house for spalling the lead ore preparatory to crushing, and we intend, as soon as possible, to cover in the dressing floors, so that we may be enabled to wash the lead ore in winter, without having so much hindrance. These necessary improvements will, undoubtedly, augment our monthly expenditure for awhile, but, on

the other hand, it will enable us to make more regular returns, besides making a considerable saving relative to the labourers employed in washing, &c. Our No. 3 stope, and 33 fm. level west, have produced during the past month about 13 tons of lead ore, and we expect to raise in the ensuing month about 14 tons. We look forward with a degree of confidence to see our sampling continue to increase as we proceed in opening the ground west, and in deeper levels.

**EAST BALLESWIDEN.**—The men will complete the least this week, and we shall soon get the wheel to work. As soon as this is completed, we shall be in a position to raise tin immediately, and of the best quality.

**EAST BIRCH TOR.**—I hope that the company will shortly put on a larger number of men, that we may lay open the mine more extensively, for I confidently anticipate a very profitable concern. Another lot of tributaries' tin was sent off last week for Truro Smelting Works, and we have some still remaining at surface. As soon as we get the account of the tin sold from the smelting-house, it shall be forwarded.

**EAST CROWDALE.**—The middle gully shaft has not yet reached the 50, but hope by the middle of next week to be down and commence driving. The lode is from 5 to 6 ft. wide, producing saving work, but not rich. In the 40 end, the lode is 5 ft. wide, and cannot be so rich as the middle gully shaft; the new driving on is 5 ft. wide, thin, and well-defined. In the winze in the bottom of the 26 the lode is 2 ft. wide, producing a little tin. Our tribute department is much as usual. Our returns for November I estimate at about 6 tons.

**EAST DAREN.**—The 20 fm. level is not so good as last week, but still in a productive lode, yielding full 1 ton of silver-lead ore per fathom. The ore part of the lode in this level, from the shaft, appears to be standing to the north, and men are now employed breaking it down. The 10 fm. level east has somewhat improved, and now produces about 16 cwt. of ore per fathom.

**EAST SHARP TOR.**—The lode in Hitchens's shaft continues much the same in character as when last reported, on producing kindly, spar, peach, munda, capels, a small proportion of grey and yellow copper ore, and promising further improvement.

**EAST TAMAR CONSOLS.**—The only alteration that has taken place during the past week is in the 70 fm. level, where the lode in the end has improved, and worth now 8 cwt. of ore per fm. The other ends, and all the pitches, are fully as productive as they were, and we have every prospect of an increased quantity of ore for the next sampling, and you may with safety estimate it at 70 tons, of at least the same quality as the last.

**Dec. 9.**—Since my last report, the lode in the south end, in the 112 fm. level, has improved, and is now worth 3 cwt. of ore per fm.; the ground is very favourable for driving. In the north end we have also a slight improvement, the lode being worth 6 cwt. of ore per fm., with every prospect of becoming more productive in the course of the current month. In the 100 and 90 ends south, the lode continues to be equally productive and easy for driving; there is no alteration in any other part of the mine to notice. We shall sample 90 tons of ore about the 19th inst., which will make a higher produce for silver than the last parcel.

**HEIGSTON DOWN CONSOLS.**—There has been no lode taken down in the winze sinking below the 45 fm. level in the past week. The 45, east of Doidge's winze, is without alteration. The lode in the 35 fm. level is improved since last report on; in the rise above the back of this level no alteration to notice. In the cross-cut south we have broken some good stones of ore from a branch underlying south towards the south lode. Hitchens's engine-shaft, sinking below the 35 fm. level, is, I am glad to say, producing good stones of grey, black and yellow copper ore; the 35 fm. level, west of said shaft, is also improved in the last week.

**HENCOCK.**—We are now in the lode about 5 feet, and I expect we shall have at least 10 ft. more to drive to get through it; the lode is showing some good spots of lead, but we have 3 or 4 ft. more to get into the leady part. We hold the winze to-day, and shall now commence driving north for a few fathoms by the side of the lode, in order to get off from the pit.

**HERODFOOT.**—The engine-shaft is sinking below the 127 fm. level, by nine men, at 131. per fm.; the lode in the bottom of the shaft is worth 7 cwt. of ore per fm. Brase's shaft is sinking by nine men, at 161. per fm.; during a part of last month, we had a great influx of water, which impeded the men; it is now decreased, and they are making fair progress. In the 127 fm. level, north of the shaft, we are driving by the side of the lode, in easy ground; the stope in the back of this level is producing 5 cwt. of ore per fm. South of the shaft we are driving on the course of the lode, which in the end is worth 15 cwt. of ore per fathom; No. 1 stope, in the back of this level, is worth 10 cwt., and No. 2, 30 cwt. of ore per fm. In the 117 fm. level north the lode in the end is worth 7 cwt., in No. 1 stope 7 cwt., and in No. 2 8 cwt. of ore per fm. South of the shaft the lode in the end is worth 4 cwt., in No. 1 stope 8 cwt., and in No. 2 7 cwt. of ore per fm. In the 106 fm. level south the lode in the end is at present poor; in No. 1 stope it is worth 7 cwt., in No. 2 9 cwt., and in No. 3 20 cwt. of ore per fm.; we have suspended all operations north of the shaft in this level. In the 94 fm. level, we are driving south of the lode; the stope in the back of this level is worth 8 cwt. of ore per fm. In the 82 fm. level, we are driving by the side of the lode; in No. 1 stope the lode is worth 20 cwt., in No. 2 14 cwt., in No. 3 12 cwt., and in No. 4 10 cwt. of ore per fm. In the 72 fm. level south we are also driving by the side of the lode; in No. 1 stope the lode is worth 20 cwt., and in No. 2 22 cwt. of ore per fm. Our prospects in the south part of the mine having considerably improved, we have placed six men in each end, for the purpose of opening more ground in that direction; at the same time, we have discontinued several operations north of the shaft, so that the total number of men employed will be about the same as before.

**HOLMBUSH.**—The ground in Hitchens's engine-shaft, sinking below the 120 fm. level, is much more favourable than it was; we have again set it to sink by 12 at 131. per fm.; 2 fms. were sunk through it last month, so that you will perceive we are making good progress, and what is very satisfactory, we think we are nearly through the trouble, which is so much in favour of the resumption of Wall's engine-shaft shortly. The lode in the 122 fm. level, west of the diagonal shaft, is 30 in. wide, producing about 4 tons of copper ore per fathom, of very good quality; the lode in the stope in the back of this level is 30 in. wide, and it will produce 3 1/2 tons of ore per fm., of good quality; the ground in the 133 fathoms level cross-cut, south towards Hitchens's shaft, is favourable—set to six men, at 51. per fm.; we purpose extending this cross-cut for a great length; the position is good, being about 20 fms. east of the great cross-course, and opposite the shaft; we shall not stop to open on the branch we have already intersected, but push on, for we are still of opinion that the main part of Holmbush lode is still before us, as well as the north lode. The lode in the 120 fm. level south is 9 ft. wide, composed of soft and hard quartz, and stones of lead—set to four men, at 51. 10s. per fm.; the flap-jack lode in the rise, over the 120 fm. level, is 18 in. wide, producing 10 tons of ore per fm.; the lode in the 117 fm. level, east to hole; rose last month, 10 fms. 1 ft. 6 in., now up above the back of the level 17 fms. The flap-jack lode in the 100 fm. level, east of the great cross-course, is 5 ft. wide, and no south wall to be seen; the part of the lode laid open will produce 4 tons of copper ore per fm., and we have contracted with six men for 81. to take down the extra piece of the lode standing to the south of that part we have been driving through for the last 2 fms.; the south part of it is best, and how much larger it remains to be proved by cutting through it to reach the south wall; the flap-jack lode in the winze below the 100 fm. level is 4 ft. wide, and it will produce 7 tons of copper ore per fm.; but we have stopped it for awhile, and removed the six men to sink a winze over the rise near the cross-course, to effect a communication as quick as possible, which we hope will be this month; afterwards we shall resume sinking the former one, which is 15 fms. east of the latter; we have divided the limits of the pitch in the back part of the 100, and have set the ground to two pairs, of four men each, at 4s. and 3s. 11. We have also resumed the 120 fm. level east on the flap-jack lode, by six men, at 51. per fm. The 120 north on the lead lode will be resumed shortly. Since our last report we have thought it advisable to extend the 100 fm. level west of Wall's engine-shaft, and we have set to six men to sink a pitch to the north of Hitchens's shaft (at present is so much improved) instead of the 70, which was then mentioned; and we have accordingly set it to be driven by six men, at 91. per fm. The 70 fm. level will be reached in time by the pitch in the back of the 100, should it continue productive; if not, we can explore the ground for the purpose, should it be needed. For the tribute department, see list which is enclosed; also circular of a parcel of lead ore just sampled, computed at 30 tons, to be tendered for on or before the 18th inst.

**KINGSETT AND BEDFORD.**—I was underground here on Monday, and am now just returned, but too late for post. We have set another pitch in the stopes, and have now three workings—two in the back of the 7 fm. level, and one in the bottom, the latter at 10s., and the two former at 12s. in 11. The new pitch in the stopes is not looking so well as when I last saw it, which caused the tribute to be higher; we expect, however, it is only a flat floor crossing the lode, and shall soon get through it. We thought of setting a new pitch adjoining the new rise, but finding we should be too close to the south end, which we have set to drive by four men, we declined it for another month; the lode in the south end is 3 ft. wide, impregnated with lead throughout, still I cannot state the worth per fm., but we are dressing the whole, and shall be able to judge of its value when dressed to itself; the great object now is to communicate this level to the hard rise, and in driving thereto we may reasonably expect to discover good tribute ground, as well as ventilate the mine, so as to work to greater advantage. We shall again resume our rise. At present we are unable to set a pitch to the north of Hitchens's shaft in the old workings as we must open a little more ground before any person would like to take it; we have, therefore, set two men to sink a little on the lode; of course they will be breaking lead as well as getting down near the hard rise; the water is not all gone as yet; every man is breaking lead daily. We have stopped the cross-course for the present. Haves tells me the ore will be in course for market in about 10 days; I can assure you that he is using every effort to do so.

**KIRKCUDBRIGHTSHIRE.**—The lode in the 74 end, west of Stewart's is kindly, with stones of ore. The lode in the 62 end, west of Keith's shaft, is 4 feet wide, with spots of ore. The lode in Gilpin's shaft is 5 feet wide, yielding 15 cwt. of lead to the fm. The lode in the 50 end west is very kindly, with good spots of ore. The lode in the 40 end west is large and kindly, and with good stones of ore. We have holed the 30 end to Gilpin's shaft; there are fine stones of ore in places. We have a cargo of ore ready, but there is no vessel to take it yet, though we expect one soon.

**LLWYNMALES.**—The surface water not having got through the ground so soon as I expected, there is yet 2 ft. 6 in. of water in the bottom of the 8 fm. level, which will be cleared out by Monday morning, when we shall be enabled to draw up the ore, and to resume the 8 fm. level. The stopes over the 8 fm. level, from 5 to 11 fms. west of western winze, are not looking so well as usual; the stopes over the 8 fm. level, from 11 to 17 fms. west of western winze, are improving. We have done but little with the dressing since last report, not being able to crush the 30 tons of tailings from the jiggling-batches until we receive the new roller shells.

**NANTEOS.**—The south lode at Bwlchwin, in the 15 fm. level, is 12 ft. wide, with good stones of ore. The 30 fm. level east is yielding 15 cwt. of ore to the fathom. The 30 east is yielding 10 cwt. per fm. The stopes over the deep adit level at Gwaithgech are rather improved; the lode is 10 ft. wide, yielding nearly a ton of ore per fm. Sampling this day (the 9th inst.) about 60 tons of ore.

**NORTH BASSET.**—The lode in the 82 fm. level is 5 ft. wide, composed of grey and yellow ore. In the 72 fm. level the lode is 3 ft. wide. In the winze sinking under the 62 the lode is 3 ft. wide, with grey and yellow ore. In the 62 fm. level end the lode is 2 1/2 ft. wide, with gossan and grey ore. In the 52 fm. level end, west of Lyle's shaft, the lode is 1 ft. wide, with gossan and grey ore. No change in our network operations, and the tribute pitches are still looking well.

**NORTH BULLER.**—The lode in Louise engine-shaft is very much improved, and is now producing rich stones of black and crystallized ore; the lode is about 2 ft. wide, underlying a little north, intermixed with soft spar, gossan, prlan, &c., and in a beautiful stratum of ground for copper. There is now at surface several stones of ore. The shaft is down 22 fms. 3 ft. from surface. It is expected the engine will be at work in about six weeks.

**NORTH WHEEL ROBERT.**—I beg to forward you a report of Monday's settings.—We have set 7 fms. below the 74 fm. level, engine-shaft, to six miners, and three labourers, at 51. per fathom; 6 fms. at Halkes's shaft, to six miners, at 51. 10s. per fm.; 8 fms. of the adit level, to six miners, at 51. 10s. per fm.; also all the stuff in the adit

level, to wheel and draw up with tackle, by three labourers, at 12s. per fm.; the open cutting to take off the water from bob-pit, at Marchion's engine-shaft, to two miners, at 10s. per fm. I strongly recommend that no time be lost in procuring a water-wheel.

—Comparatively little only as yet having been done since the recent commencement of the company's operations, there is consequently but little to advise. The lode has been opened on at various points on the back, in the usual way, by costaining pits, and in the additional western ground, where the stratum is a conglomeratic kilaas, and the lode shows great regularity of run and underlie, from 3 to 4 and 5 ft. wide, with an equally promising gossan as at any other point of development, which adds to the value of the original run. The adit level, which will come in (on the course of the lode) under this ground, at a depth of about 34 fms., has been cleared, but not without first clearing and making good the adit shaft, and carrying down the necessary air-pipes to ensure proper ventilation, and effectually progress in the driving of the said level. It has been set to drive at 21. 15s. per fm., as will be seen on reference to the setting paper. There has been also set an engine-shaft to sink, to take the lode at 40 fms. below the surface, the first 7 fms. having been taken at 51. per fm., which attests the easy nature of the ground. There should now be no time lost in procuring and erecting the water-wheel, and other requisite collateral machinery, to ensure the uninterrupted, effectual, and (as is confidently expected) successful prosecution of the main work.

**NORTH WHEEL FRIENDSHIP.**—In driving the 30 fm. level, west from Buller's engine-shaft, a small cross-course has been met with, but the lode has not been shifted off of its course; good stones of lead have been broken from the lode prior to, and since, the intersection of the cross-course. There is a range of capels still showing itself at the surface before the present end of the level, which I think an object well worthy of exploring. In the 33 fm. level, driving north from machine shaft, the lode is large, producing saving work for lead. The lode in the deep adit level, driving north on the west lode, is 3 ft. wide, containing spar, flookan, and spots of lead; the driving of this level I consider a fair speculation, particularly having the great copper lode in addition before us, at a depth of 50 fms. The pitches, on the whole, are looking well, turning out fair quantities of lead. We sampled, on the 9th inst., about 14 tons of good quality lead.

**PENTIRE GLAZE AND PENTIRE (UNITED).**—The stopes in the back of the adit level, on the main lode, are still yielding ore of good quality, clear and improved since last report. The stope in the back of the 10 fm. level, on the middle or new lode, have much improved since last report, and I expect a further improvement. We have resumed driving the 10 fm. level south, which has a very promising appearance; it is composed of gossan, prlan, flookan, quartz, munda, and good stones of lead ore. The sampmen have completed the work in the shaft, and commenced driving the 23 fm. level northward, the ground in which is easily wrought, and the lode large. We have commenced sinking the boundary shaft below the 10 fm. level; the ground is favourable, and the lode large, containing good stones of lead ore. We continue improving, and shall get 30 tons of ore ready for market by the end of the month.

**PEN-Y-BANK AND ERLGLOD (UNITED).**—The lode in the adit level driving east from the cross-cut, is much as last reported, large, with small branches of ore. We have cleared and secured the shaft at Pen-Y-Bank 18 fms.

**PENZANCE CONSOLS.**—We have still a good lode of tin in the bottom of the mine, on the north lode. I think this must be the leading lode of the mine, and if the tin holds in depth, as I expect, we shall have a good mine.

**SOUTH TOLGUS.**—The lode in the 54 fm. level west is 20 in. wide, and very promising; the south lode, in the same level east, is 1 ft. wide, yielding 1 1/2 ton of ore per fm. The lode in the 42 east is 2 ft. wide, worth 2 tons of ore per fm.; in the same level west the lode is 1 ton per fm. The north lode, on the whole, is looking well, and is worth 1 ton per fm.; in the same level east the lode is worth half a ton per fm. Yonen's lode, in the rise in the back of the 12 west, is worth 2 tons per fm.

**SOUTH WHEEL TRELANWY.**—We are driving south on the course of the lode in the 60 fm. level, with six men; the ground is not quite so favourable as it has been. The lode is 7 in. wide, but it appears to be opening; it is very regular, and there is also a moderate underlie, about 1 ft. in a fm.; it is composed of kilaas, flookan, munda, spar, and spots of lead. We set last survey day for 31. per fm., 2 fms. extent. With respect to repairing winze, and dividing and casing down the shaft from the 50 to the 60 fm. level, this is all completed, together with other needful jobs.

**TAVY CONSOLS.**—The shaft is now 6 fms. 8 ft. under the 46 fm. level, which leaves us 37 fms. more to sink to reach the 56 fm. level; the ground is a light blue kilaas, interspersed with small strings of munda, fluor-spar, and spots of copper ore; it is much more settled than it was about the 46, and I consider it congenial for copper ore; the lode is close to the shaft, and will most likely be cut in the pit at the 56 fm. level. The network in the places now being working, with having produced 2 tons of munda, played in each stope or bargain, is as follows:—1. Stope in the bottom of the 12 fm. level, west of shaft; lode 3 ft. 6 in. wide, producing 4 tons of munda and 10 cwt. of copper ore per fm.; by two men and two boys, at 60s. per fm.—2. A stope in the back of the 12 fm. level, west of the cross-cut, on north lode; 6 ft. wide, producing 24 tons of copper ore, and 3 tons of munda per fathom; by four men, at 43s. per fm.—3. A stope in the back of the 12 fm. level, west of Gimlet's rise; lode 3 ft. 6 in. wide, producing 4 tons of copper ore per fm.; by four men, at 40s. per fm.—4. A stope in the back of the 13 fm. level, west of the cross-cut, on north lode; lode 3 ft. wide, producing 15 cwt. of copper ore per fm.; by two men and two boys, at 40s. per fm. I have put two men to drive on the cross-cut north, in the 46 fm. level, to cut the main lode west of the cross-course. The produce of November will be sampled this week.

**TRELANWY.**—At Phillips's shaft, in the 62 end north, the lode is 2 feet wide, worth 81. per fm. Trellawny shaft has not been sunk since last week, in consequence of an influx of water from the north mine, but it is now nearly in fork. In the 92 north the lode is 3 1/2 ft. wide, worth 111. per fm.; in the same level south the lode is 3 ft. wide, worth 101. per fm. In the 82 north the lode is 3 ft. wide, worth 71. per fm.; in the winze in the bottom of this level the lode is 3 1/2 ft. wide, worth 141. per fm. In the 72 north the lode is 3 1/2 ft. wide, worth 91. per fm. At the north mine, Smith's shaft has not been sunk since last report. In consequence of having cut the slide in the 55 end north, which let down a large quantity of water, from which circumstance we anticipate a large hollow lode north of the slide. The 55 south has not been driven, from the same cause. The 40 north is still poor. Our stopes are yielding work of the usual quality.

**TRELEIGH CONSOLS.**—Christie Lode: In the 90 fathom level, west of Garden's, no lode has been taken down this week; in the winze below the 90 fm. level the lode is 1 ft. wide, but little ore; in the stope above the 90 fm. level, west of Harrie's winze, the lode is 3 ft. wide, worth 141. per fm. In the 80 fm. level, west of cross-cut, on the north part, the lode is 18 in. wide, with stones of ore; in the 70 fm. level, west of Garden's, the lode is 15 in. wide, with good stones of ore.—Parent Lode: At the Parent engine-shaft, sinking below the 92 fm. level, we are sinking in the country, south of Parent lode, and north of the middle lode. In the 53 fm. level, east of ditto, the lode is 2 ft. wide, with stones of ore. In the rise above the 40 fm. level, east of Parent shaft, the lode is 2 1/2 ft. wide, with good stones of ore. In the 30 fm. level, east of ditto, the lode is 2 ft. wide, with stones of ore.—Middle Lode: In the 40 fm. level, east of cross-cut, the lode is 20 in. wide, worth 81. per fm. In the rise above the 40 fm. level, west of cross-cut, the men have not commenced to rise as yet; they have been employed at surface, putting in tramroad for crusher. At Burgess's shaft, from surface, we are working in the country for the middle lode.

**TRESAVEAN.**—The lode in the old east shaft, sinking below the 300 fm. level, is 3 ft. wide, and unproductive. There is no change in this since last report. The lode in the 200 fm. level, below the 20 fm. level, the lode is 3 ft. wide, yielding 2 tons of ore per fm. The north lode, in the 75 fm. level, driving west of the cross-cut, is 4 ft. wide, producing 2 tons of ore per fm. In the winze sinking below this level the lode is 7 ft. wide, yielding from 4 to 5 tons of ore per fm. The committee have determined to commence sinking a new shaft on this lode, from the surface to the 75 fm. level, which will be complete in about 20 months. Our tribute pitches are much the same as the last



Sir,—In your Journal of the 30th Nov., under the head "Mining Notes," there is a description, if it may be so called, of Breage Consols, but such a description as does not accord with the facts. Without intending to take up your space with a complete refutation of the statements, I shall merely inform your readers that in Wheal Vor there are no "north and south lodes," the lodes in that mine are *east and west lodes*. I do not know where this mine is situated, although I know the locality of Wheal Vor perfectly well; the name is *new*, but the district is good for coal. If by the name Breage Consols, North Wheal Vor is intended, I see no reason at all for a conversion of the name. With respect to North Wheal Vor, I beg to state that the sett was granted to Mr. G. J. Phillips, of Camborne, who was appointed the pursuer; owing to the quarrelsome disposition of some of the adventurers, who are members of the *Temperance Society*, there was a resolution passed to suspend operations, sell the materials (which fetched about £4.), take a fresh license from the lord, dissolve the company, and construct a new one. All this



elaborate proceeding was for the simple purpose of ejecting Mr. Phillips. This end, so far as the present company is concerned, has been attained; but I would recommend all parties embarking their capital in North Wheel Vor, or Breage Consols, to assure themselves that there is a good foundation in the shape of a lease from the lord; for it may be that the lord, in consideration of the original license having been granted to Mr. Phillips, and of the manner in which he has been served by the present party, will grant the lease to him who is fairly entitled to have it.—J. R.: Breage, Dec. 11.

#### MINING PROSPECTS IN THE CARADON DISTRICT.

**EAST SHARP TOR.** I am informed, is progressing satisfactorily, the lode still maintains its size, and is improving as they get down on it; from what I have seen of the lode myself, I think it will make a large deposit of copper in depth.

**PHENIX MINE** holds on her richness, and is improving going west in the deep adit level.

**WEST PHENIX** is now set to work in good earnest, Mr. Vatcher having, through the recommendation of myself and Mr. Thomas Nicholls, of the Bedford Iron-works, offered to Mr. Thomas Rodda the superintendence of the workings, as resident agent, and that gentleman having accepted it, there can be no doubt but the necessary operations for developing the sett will be carried on with the utmost vigour, and that every economy will be adhered to, that no part of the adventurers' property may be wasted. By such a plan of working I am well assured, not only from what I judge of the situation of the sett, but from what I have heard by old men for many years back, that whatever may be the parties who speculate, they will in time reap an abundant harvest for their outlay.

**SOUTH PHENIX** is a piece of ground now wrought under the superintendence of that persevering and well-known agent, Capt. S. Seccombe. I passed by the workings, a few days back, and saw as fine a copper lode opened on as any one need wish to see; here is a good piece of mineral ground, and I hope she will prove as productive as the other Phoenix, to the north of her.

**SOUTH CARADON** is improved within the last few months, and is likely to be a good and lasting mine.

**GONAMENA** is returning some good ore, and is likely to turn up a trump.

**WEST CARADON** still continues to pay handsome dividends to the shareholders, and likely to do so for many years to come.

**CARADON VALK** is progressing with the greatest satisfaction; the engine-shaft is in course of sinking by nine men, from 7 to 8 feet weekly, the lodes are promising, and are in a good stratum of killas; this is evident from the price giving for sinking (8s. 10s. per fm.). The engine draws all the water, with a small consumption of coals, burning 4 tons a month. This mine will soon be explored.

**WHEAL GILL** is working on a small scale for the present; but will immediately be put on with all force after Christmas. A 70-inch cylinder engine is purchased, with 28 tons of boilers, and will in a little time be on the mine.

**NORTH VENTON** is a new mine set to work last week; little or nothing was said about this piece of ground until about a fortnight back, when I was in Exeter, and held some conversation with Messrs. Vatcher, Nicholls, Harvey, and Co.; the sett was immediately taken up, and men set to work on it on the Thursday following; this was done through the spirit and perseverance of H. Vatcher, Esq., of Exeter, who I have ever found to have the interest of his co-adventurers at heart.

**TRETHEVY COPPER MINE** is down about 4½ fms. below the 80 from surface; the lode in it is one of the most promising I have ever seen to the depth—that is, without a regular course of copper. We have had a large quantity of rich copper intermixed with blende, and black and grey copper in it; this averaged full 7 ft. wide, but now is enlarging and changing its colour; the gossan with the blende is leaving, and soft spar, peach, pryan in abundance, together with large spots of yellow copper ore, is the composition of the lode now.—JOHN SEYMOUR.

#### MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

**BODMIN.**—There is a splendid discovery at one of the mines in this neighbourhood. The lode in the 20 fm. level is, I am told, worth 1500 per fathom.

**GEORGIA CONSOLIDATED MINES.**—As this promising undertaking has not hitherto been brought prominently forward, it may not prove uninteresting to the public to give a brief outline of what has already been done, and what may now be confidently expected to accrue. These mines are situated in the parish of Towardack, in the St. Ives mining district. Operations were commenced in the month of February last. There have been an account-house, smith's and carpenter's shops, material magazine, and pitman's houses erected. A new 28-in. cylinder engine, 9 ft. stroke, with house, bob-stands, flat-roads, balance and flat-rod bobs, bob-pits, and yard walls all complete; the adit cleared and secured about a quarter of a mile in length. Great difficulty was experienced in accomplishing this, as part had become collapsed, which entailed an additional expense of nearly 5000, and upwards of two months' delay. A new side adit has been driven for many fathoms, and extended into whole ground north about 50 fms. A new engine-shaft has been sunk from surface to a depth of 23 fms., which is 13 fms. below the adit, at which level two cross-cuts have been driven—one north to a distance of 8 fms., when Coal's lode was intersected—the other south about 4 fms., at which point Lane lode was cut; in both instances the lodes proved rich at the points of intersection, and vary from 12 to 20 inches in width. The levels are now extended on each lode about 10 fms., and continue to maintain the high character which was first formed of them. The backs on Coal's lode will be worked on tribute for about 6s. in 17, and Lane lode for 5s. in 17, and, in a very short time, shall be raising 4000 bushels of tinstuff per month. The cross-cut south is being extended, to cut Noon west lode, which will be accomplished by driving about 10 fms. further. The adit level, on this lode, has been extended 40 fms., and by sinking in the bottom of the level in several places, the lode was proved to be very good, so that we are expecting a rich harvest here also, as soon as the lode is intersected in the 13 fm. level. There has been a new flat-rod shaft sunk from surface 27 fathoms, which is now 13 fms. below the adit level. This shaft is sinking on the same lode as that cut in the cross-cut, north of the engine-shaft, and assuming it should continue as it has been, and as it is at present, the backs will set for about 6s. in 17. There are now two ends driving on this lode from this shaft, and also a cross-cut south, to intersect Lane lode, which has, at this point, yielded vast quantities of tin at and above the adit level for a great distance, but which the former workers could not operate upon in depth, on account of the great influx of water. The deepest point of the old workings, on any of the lodes, is not more than 4 fms. under the adit. There are lodes still further north and south of the engine and flat-rod shafts to be laid open. From the above statements, it will readily be perceived that the two shafts are sinking amidst a number of well-defined and productive lodes; and as two of those lodes will—viz.: the Coal's and Lane lodes—form a junction at a comparatively shallow depth (about 30 fms.), this circumstance supplies a very important feature to the undertaking, particularly so when it is considered that at and near the intersections in the adjoining mines—viz.: the Great Reeth, Reeth Consols, and Wheal Margaret—the lodes have invariably yielded vast quantities of tin. In about seven weeks from this time there will be 10 ends driving in the 13 fm. level on the different lodes, and in less than three months the next lift will be down, and the cross-cut driven, at which time there will be 20 ends driving, all on the course of productive lodes; and the writer of this notice fearlessly asserts what he has always stated, that when the operations have arrived at this stage, the task will pay the whole cost of the mine. It was intended at one time to erect water-stamps, but these, it is now found, will be quite inadequate for the work; a 24-in. cylinder, with framework for 24 heads, capable of being increased to 48 heads, has, therefore, been ordered of Messrs. Sandys, Virvan, and Co. At present the men have 40s. per fm. for driving on the course of the lodes, so that immense quantities of tribute ground will, in a short time, be opened. In conclusion, the writer cannot avoid alluding to the observations which from time to time, up to a recent period, have been made by parties in the immediate neighbourhood respecting this undertaking, allowing gross prejudice to influence their judgment, and, as events have proved, to give only the greater triumph to the agent, who, throughout these proceedings, has brought his energy and experience to bear upon one object alone, which has been to serve the best interests of the adventurers.

**WHEAL TOM (Deer Park).**—Operations have commenced in real earnest in this sett. They are erecting smith's shop, and all other necessary buildings, and are bringing up a lobby, to cut the great tin lode, which was lately sunk on in the centre of the sett; and from its promising appearance there, it is expected that a course of ore will be met with in bringing up the deep adit on the course of the lode, which, on a drilage of 70 fms., will come into a depth of 50 fms. from surface. There is a large quantity of water coming from the lode. In the centre of the sett, where the shaft was sunk on the course of the lode, it contained peach, capel, and tin, fit for stamps, good work; it was 4 ft. big, underlying north about 2 ft. in a fm., with stonies of copper greens in the lode. At the southern extremity of the sett they are clearing out the old men's adit, for the purpose of sinking on the wolfram lode, which is 3 ft. wide, containing a leader of 14 in. solid wolfram, which can at once be sent to market. There are occasional bunches of tin in the lode, and, at a few fms. deeper, they are in hopes it will make tin in abundance; this lode is at the foot of Kitt Hill, and underlies north, and runs through their sett for about 150 fms. Its neighbour on the north, Great Wheal Sheba, is looking well, and raising large stones of ore, and will shortly sample for market. On the west, Holmbush is making large returns, whose lode, they fully expect, is in Wheal Tom.

**WHEAL ARTHUR (Calstock).**—In a report of this mine, in last week's Journal, it was stated that a sample of copper ore had been sent to the office in London, producing 14½ per cent., and that large quantities of such ore would soon be raised. This is all correct, but why is the silver-lead lode omitted? The lode has produced lead ore of a rich quality, and as soon as the adit level is cleared will produce hundreds of tons more. The whole truth should be stated.

**WHEAL HAMLYN** is still assuming a very promising appearance; they have now a quantity of mandle, impregnated with rich yellow ore.

We learn that a company is being formed for working the Lanivet Wood Mine, in the property of the Rev. Mr. Flammank, in Lanivet, Cornwall, adjoining the Wheal Mary Consols in that parish, of which, and the Lanivet Wood, we shall shortly be able to give some further information.

**NORTH WHEAL ROBERT.**—I believe the lode at North Robert Mine, when explored at or about 20 fms. deeper than where I saw it, where the last engine-shaft was sunk, will prove to be productive of large quantities of copper ore. The continual bickering among the last party, and the unpleasant feelings exhibited at their several meetings, together with their sparing capital to carry out the work systematically, were the sole reasons, in my opinion, for its abandonment.

**WEST GOGINAN.**—The lode in both ends, driving east from the shaft, is much the same in appearance, being from 4 to 6 feet wide, composed of killas, spar, with jack, and some spots of lead ore.

**WEST WHEAL VIRGIN** (tin) sett is in the parish of Sancreed, Cornwall, adjoining East Ballewidden, and near the Ballewidden, Ding Dong, and Penzance Consols. The working commenced in March last, and the shaft is sinking under the 9 fathom level. More than 1000 worth of tin has already been obtained, and a very moderate outlay, it is estimated, will place it in the list of profitable undertakings. Capt. Henry Michell reports that the lode of tin going down is from 18 to 20 in. wide. The sinking of the shaft is prosecuted with activity, and the prospect of a good mine is confirmed as the work progresses. Capt. Carthow also states that the lode is increasing in size, and improving in quality. A small parcel of tin has been already sold, being the produce of one month's working. The mine is divided into 1024 shares, and is worked on the Cost-book Principle.

**WHEAL AUGUSTA** (tin) sett, which is worked on the Cost-book System, is in St. Just, Cornwall, and is held under lease for 21 years, at 1-18th dues. Spearne Consols, Boswidden, Boscawell Downs, Levant, Botallack, and other well-known mines, are in the immediate vicinity of this sett. In a report of Capt. Trehair, it is stated that the main lode is supposed to be the lode which made the Levant Mine so rich and profitable, and is in a beautiful channel of tin ground. The mine is said to have been worked a long time since, and afterwards abandoned, and the former adventurers sunk on this lode about 20 fms. under the adit level, and obtained large quantities of tin. Since the present operations were commenced, the same report says that a master lode has been discovered, worth 500 per fm., and from 15 to 20 fms. long. The managing agent states that, since the commencement of the workings in April last, the adit and shafts have been cleared out, and a lode of tin was discovered at the bottom far exceeding his expectation. There is now nearly 1000 worth at surface, obtained at small expense, and the amount opened upon is calculated at 12000 worth, which can be raised, the agent says, at the expense of 3000. The mine is divided into 8072 shares.

**DISCOVERY OF A VEIN OF LEAD ORE IN SHINCLEFFE COLLIERY.**—We understand that a valuable vein of lead ore has just been discovered in the working of Messrs. W. Bell and Co.'s Shincleffe Colliery. The stratum is about a foot in thickness, and is expected to be of great value.

**THE IRON GIRDER RAILWAY BRIDGE AT JOINER-STREET.**—In the course of the works now going on at the London-bridge terminus, it was supposed that one of the new iron girders of the bridge that carries the line over Joiner-street, was insufficient to bear the weight of the structure and traffic, and that it was a bad design. The Paving Commissioners directed Sir John Rennie and Mr. Brunel to examine it as to its security, and they decided that it was not so well suited to the works as could be wished. Accordingly the Railway Commissioners were moved in the matter, and the Government Inspectors having inspected and tested it, they have determined in favour of its strength and fitness for the structure; consequently it will remain.

**THE IRON TRADE.**—A cheering upward move in the iron market, has given a rotund, instead of an elongated, appearance, to the faces of many men of business in these parts. May the expression continue far beyond the duration of the late bleak period of depression; and may increasing prices, and inflowing orders, long gladden the hearts of spirited employers, and industrious operatives. We understand that a very large contract for rails has been entered into between a great manufacturer in Glamorganshire, and a foreign state—*Monmouthshire Merlin*, this day.

**RAILWAY TRAFFIC.**—The gross traffic in the three kingdoms since the 30th of June last, appears to have reached the sum of 6,015,970, which, on 6008 miles now open, gives an average of 1022.3s. 2d. per mile for the period indicated. During the same period last year, on 4963 miles, the traffic amounted to 5,213,303, showing an average of 1050.5s. 8d. per mile. The gross traffic for the week, on the same returns, amounts, on 6115 miles, to 221,600, which indicates an average of 361.4s. 9d. per mile. For the same week last year, on 5222 miles, the traffic reached 187,940, or 357.9s. 9d. per mile, showing a balance of 4s. 11d. per mile per week in favour of the present year. Taking the English lines by themselves, we find that the traffic thereon has this week amounted to 187,600, which, on 4769 miles, gives an average of 391.7s. 7d. per mile. On 503 miles of Scotch lines the traffic has been to the extent of 24,892, or 371.1s. 3d. per mile. In Ireland, on 442 miles, the traffic has produced 9048, or 201.9s. 4d. per mile. In France, on the 1592 miles now open, the traffic has amounted to 61,377, being equal to an average of 384.9s. 11d. per mile.—*Railway Times*.

We have to announce an extraordinary scientific fact—one, indeed, fraught with the utmost importance in connection with our present knowledge of the formation of mineral veins—our respected correspondent, Mr. Andrew Smith, C.E., the inventor of wire-rope manufacture, having discovered the affinity between aerial electricity and terrestrial magnetism. We have our correspondent's permission to announce that a full detail of his discovery, with its probable results, shall appear in an early Journal.

#### LATEST CURRENT PRICES OF METALS.

LONDON, DECEMBER 13, 1850.

ENGLISH IRON.	per ton.	per cwt.
Bar, bolt, & square, London	25 6-3 10	2 6-3 10
Nail rods	6 0-6 10	0 6-6 10
Hoops	7 0-7 10	0 7-0 10
Sheets (single)	7 12 6-8 5	0 12 6-8 5
Bars, at Cardiff & Newport	4 15-0 0	0 15-0 0
Refined metal, Wales	3 5 0-3 15	0 5 0-3 15
Do. anti-rust	3 10 0 0	0 10 0 0
Pigs in Wales	3 0-3 10	0 0-3 10
Do. do. forge	2 5 0-2 10	0 5 0-2 10
Do. No. 1, Clyde	2 3 0-2 4	0 3 0-2 4
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport	3 10 0 0	0 10 0 0
Do. do. for tin plates, boiler plates, &c., ditto	4 10 0 0	0 10 0 0
Stirling's Patent in Glasgow	2 15 0 0	0 15 0 0
Toughened Pigs in Wales	3 10-3 15	0 10-3 15
Staffordshire bars, at the works	7 6-0 0	0 6-0 0
Rails	5 0-5 10	0 0-5 10
Chairs (Clyde)	4 0 0 0	0 0 0 0
FOREIGN IRON.	per ton.	per cwt.
Swedish keg	11 10-12 0	1 10-12 0
COND.	17 10 0 0	1 7 10 0 0
PSI	—	—
Gouffier	—	—
Archangel	—	—
ENGLISH COPPER.	per lb.	per cwt.
Sheets, sheathing, & bolts, p. lb.	0 0 9 1	0 0 9 1
Tough cake	81 0 0 0	8 1 0 0 0
FOREIGN COPPER.	per lb.	per cwt.
Old copper	—	—
Yellow Metal Sheathing	—	—
FOREIGN COPPER.	per lb.	per cwt.
South American	77 0-87 0	7 7 0-8 7 0
ENGLISH LEAD.	per ton.	per cwt.
Pig	10 17 10 15	1 0 17 10 15
Sheet	18 10 15 15	1 8 10 15 15
Pipe	18 10 0 0	1 8 10 0 0
Red lead	19 0 0 0	1 9 0 0 0
White ditto	25 0 0 0	2 5 0 0 0
Patent shot	21 0 0 0	2 1 0 0 0
FOREIGN LEAD.	per ton.	per cwt.
Spanish, in bond	16 0-17 0	1 6 0-1 7 0
ENGLISH TIN.	per cwt.	per lb.
Block	4 3-4 4	0 4 3-4 4
Bar	4 4-5 0	0 4 4-5 0
Refined	4 9 0 0	0 4 9 0 0
FOREIGN TIN.	per cwt.	per lb.
Banca, H. C.	4 2 0 0	0 4 2 0 0
Ditto, for Export only	—	—
Straits	4 1-4 3	0 4 1-4 3
TIN-PLATES.	per box.	per cwt.
IC Coke	7 0-1 0 0	0 7 0-1 0 0
IC Charcoal	1 12 6 0	0 1 12 6 0
IX ditto	1 18 6 0	0 1 18 6 0
SPELTER.	per ton.	per cwt.
Plates, warehouse	16 10 16 10	1 6 10 16 10
Ditto, to arrive	16 7 6 16 10	1 6 7 6 16 10
ZINC.	per ton.	per cwt.
English sheet	20 0-21 0	2 0 0-2 1 0
QUICKSILVER.	per lb.	per cwt.
—	3s. 9d.	3 3s. 9d.

The market for WELSH IRON has been quiet, and prices have receded slightly. The failure of a house in Glasgow has added to the dullness of this market. Purchases may be effected at 42s. 6d. to 43s. for mixed No. 1, and about 44s. three months open. SWEDISH IRON is very firm. A large demand has suddenly sprung up, filling the hands of the makers, and large orders at present quotations have been offered and refused this week.

SCOTCH PIG IRON has been quiet, and prices have receded slightly. The failure of a house in Glasgow has added to the dullness of this market. Purchases may be effected at 42s. 6d. to 43s. for mixed No. 1, and about 44s. three months open. SWEDISH IRON is very firm. A large demand has suddenly sprung up, filling the hands of the makers, and large orders at present quotations have been offered and refused this week.

IN SPELTER there are no transactions to note, with the exception of a sale at the early part of the week, of about 100 tons to arrive at 167.5s. per ton overseas. COPPER continues very firm.

TIN has suddenly been advanced 3s. per ton by the smelters, on whose account large purchases of E. I. have been made at increased prices. The stock of E. I. is about 1000 tons. LEAD remains firm at the improved prices. TIN PLATES without alteration.

GLASGOW, Dec. 12.—Our market for Scotch pig-iron has been stagnant, owing to the failure of one of the large local foundries, but prices did not give way, and to-day there was a better demand, and some large transactions have been entered into. Scrap appears now to have received such a shock, that it is not likely to recover, as considerable quantities have been arrested by various parties, owing to the above-mentioned failure. The following are the quotations:—Gartshore, No. 1, 45s. per ton, cash; ditto, mixed No. 44s. 3d. ditto; good bands, 44s. ditto, and prices are looking up.

HULL, THURSDAY.—Messrs. T. W. Flint and Co. state that they have had a very active brisk market for mining shares, and this description of security is rapidly increasing in public estimation. Tremaynes have been dealt in at 30½ to 31¼; Wellingtons at 16½ and 16¾; St. Aubyns, 21½, 22½; Bedford, 6, 6¼; Gustavus, 6, 6¼, &c. Among the new mines Merilyn comes in for the chief share of attention, and there have been several transactions. Wheal Lemons are also dealt in. West Tynnes seem rather recovering from the depression, but the demand is not by any means brisk for them. West Providence, Lewis, and Trannack are steady, but without much business, which applies also to Alfred Consols, of which there are buyers when any reduction in price is submitted to. West Alfred is quiet, and Great Wheal Alfred rather offered at a market price, without finding buyers. In railways they have had a succession of markets that have not been equalled for some months, or, it might indeed be said, for some years past.

#### Current Prices of Stocks, Shares, & Metals.

**MINES.**—A very extensive business has been transacted this week in every class of mines, of which, however, the dividend ones have absorbed the greater portion, and a marked rise in their value may be noted partly from this cause, but also from the improved prospects of several of the leading concerns. For instance, East Pool have advanced from 90 to 105; South Wheel Francis, from 600 to 640; West Providence, 41 to 50; East Tolgus, 9½ to 20, and others in proportion. Buyers, however, still complain of the want of a general market for mining shares, the establishment of which we feel assured would largely increase investments. A strong argument in favour of the vigorous prosecution of lead mines, and particularly those whose ores are rich in silver, is presented by an article in the *Times*, of the 9th inst., wherein it is shown that the increase of population, and the industrial operations consequent thereupon, combined with other causes of a more transient character, are creating an additional demand for silver coin all over the world, and thus enhancing its value; whilst gold, from a superabundant supply (estimated at ten millions sterling per annum from California alone), must undergo a depreciation in value, simply because it is likely to be less demanded for the purposes of circulation.

The improvement noticed in the metal trade generally during the last few weeks continues unabated. Lead is in improved demand, at somewhat firmer prices. The market for foreign tin has been in a most excited state, and a very extensive business has been done—full 20,000 slabs having changed hands at advancing prices. English tin has advanced 3s. per ton, and tin-plates continue, in good demand at full prices. Copper is steady, and without alteration.

Another cargo of copper ore, 484 tons, has arrived at Swansea, from Cuba. The sales of copper ores at Redruth, on Thursday, amounted to 2674 tons, producing 19,809½ 17s. 6d.

Herodfoot Mine sold 80 tons of silver-lead ore, at 11½ 17s. 6d. per ton. The Glenmalur Mine, Wicklow, has sold 66 tons of lead ore, at 10½ 10s. 6d. per ton.

The Keswick Mines sold two parcels of lead ore—10 tons at 11½; and 5 tons at 10½ 10s. per ton.

Two parcels of lead ore from the Driggith Mine produced—10 tons, 11½ 10s., and 6 tons, 9½ 10s. per ton.

Wheal Mary Ann sold 90 tons of lead ore, at 19½ 8s. 6d. per ton—the biddings for which varied from 15½ 10s., by the Combmartin and North Devon Smelting Company, to that of the purchasers, Messrs. Locke, Blackett, and Company.

The lead ore raised at the Lisburne Mines in November amounted to 287 tons, of which 162 tons were from Frongoch, 117 tons from Logylas, and 8 tons from Graigoch.

The report from the Nantao Mines states that the five weeks' sampling amounts to 52 tons of lead ore—36 tons from Bwlchgwin, and 16 tons from Gwaithgoch.

At the Goginan Mines 80 tons of silver-lead were sampled on the 10th inst. The 120 fathom level west is improved, and now yields 2 tons of ore per fathom.

At the Bog Mine, Cardiganshire, the lode which has just been cut in the cross-cut north, in the 46 fm. level, is expected to yield 10 cwt. of lead ore per fm. Several branches remain to be cut.

At East Crowndale, the returns for Nov. will, it is estimated, amount to 6 tons of black tin, and the mine generally is improving.

Two parcels of black tin from Drakewalls Mine were sold—3½ tons at 45½ 12s. 6d., and 3½ at 40½ 5s. per ton.

The first sale of tin from the Warleggan Consols Mine produced 47½ and 33½ per ton.

A discovery of some magnitude has taken place at Great Sheba Consols; the lode is said to be 9 ft. wide, carrying ore throughout, in the adit level: 70 men are employed in erecting machinery. It is supposed to be the Devon Consols lode.

At Old Polberro Mine (St. Agnes), the 60 fm. level west is much improved; the lode is nearly 4 ft. wide, 2 ft. of which is good work. Two tons of good ore were obtained from a length of 4 ft. The tin dressing is going on tolerably well.

At Bat Holes, the lode in the deep adit is worth 7½, and the stopes 16½ per fm. A cross-cut has been driven to Woodvein lode, and the accounts received are encouraging.

Cook's Kitchen has greatly improved during the last two or three days, especially the north lode, where a great quantity of very rich copper ore has been raised.

A dividend of 5s. per share has been declared in the Cwmystwyth Mine. The Dolcoath Mine accounts show—By copper ore sold, 609½ 5s. 1d.; tin, 2403½ 18s. 1d.; arsenic, 134½ 19s. 7d.; sundry receipts, 197½ 15s. 5d.—3345½ 18s. 2d.—Mine cost for September and October, 2309½ 3s. 4d.; land and water rents, 168½ 18s. 6d.; merchants' bills, 772½ 11s. 8d.; dues, 65½ 11s. 8d.—leaving profit of 29½ 12s. 8d.; the liabilities of the mine, which, at the end of August last, were 2734½ 1s. 9d., being thereby reduced to 2704½ 1s. 9d.

At the Llanberis Wheal Maria meeting, the recent discovery on the B lode formed a subject of prominent interest, and the details given by Mr. Murray, which will be found in another column, afforded much satisfaction. That gentleman stated that he had never in his experience seen a more promising copper lode, and he anticipated the most important results from its workings. The funds in hand, it is supposed, would defray the expenses of the past month. The shares forfeited to the mine are 306 out of 2048, and it was resolved that the mine shall in future consist of 1742 shares.

The East Tywarthayle accounts show—Balance, July 31, 63½ 15s. 4d.; mine costs, Aug., Sept., and Oct., 305½ 6s. 6d.; merchants' bills, 147½ 0s. 11d.—516½ 2s. 9d.—By call of 2s. per share, 512½—leaves balance in favour, 4½ 2s. 9d. A call of 3s. per share was made.

The East Wheal George Mine account showed—Total expenditure to the end of Nov., 2365½ 15s. 8d.—Receipts from three calls, 2048½; ores sold, 216½ 1s. 3d.; leaving balance against the adventurers, 101½ 14s. 5d. The reports from Capt. S. Lean and Pomroy were favourable, and it was believed that no further call would be required.

At the Tavy Consols meeting, the accounts showed—Balance at last meeting, 347½ 7s. 3d.; mine cost for September, 222½ 16s. 8d.; October, 231½ 2s. 3d.; dues, 50½ 4s. 11d.; merchants' bills, &c., 25½ 15s. 10d.—877½ 6s. 11d.—By calls, 345½ 10s.; sales of ore, 510½ 5s. 11d.—showing balance against mine, 23½ 11s.; add estimated liabilities, 420½—443½ 11s.; ores due, and now for sale, 270½—leaves mine in debt, 173½ 11s. It is expected that as the cost will henceforth be much less than heretofore, and that all possible reductions have been made in the expenses, a monthly profit will be shown in future, the ground in the shaft through which they are sinking giving hopes of a considerable improvement in the lode at the next level.

At the Wheal Sarah meeting, it was determined that the working of the mine be resumed on the plan recommended by Mr. Murray in his report. A balance of 233½ 14s. 4d. remaining in the hands of Mr. Wiseman, was directed to be applied to the payment of the mine debts. Mr. Crofts, the secretary, tendered his resignation, on the ground that his other avocations precluded his giving the necessary attention to the affairs of the company.

At the Wheal Vincent meeting, it was resolved that a call of 2s. 6d. per share should be made, and steps taken to obtain the payment of calls in arrear. Mr. Murray gave a very favourable account of the capabilities of the mine, and stated that 2 tons of tin ore could be raised from the new shaft per month, with a good profit to the adventurers.

At Wheal Trefusis meeting, the accounts presented and passed showed a balance against the adventurers of 110½ 17s. 2d.; the debts, inclusive of the balance against the mine at the end of August, merchants' bills, &c., were 692½ 4s. 10d. The sum collected on last call was 504½; tin-stuff sold, 77½ 7s. 8d.—leaving the balance as stated. A call of 10s. per share was made. The report on the mine was of a satisfactory character.

At the meeting of the Rhoswydol and Bacheiddon adventurers, the accounts showed—Mine cost for October, 149½ 8s. 8d.; Nov., 152½ 7s. 6d.; balance due on previous account, 475½ 10s. 8d.—777½ 6s. 10d.—Cash received on last call, 210½ 6s.; ores sold, 126½ 15s. 10d.—leaving balance, 440½ 5s.; which will be reduced by proceeds from lead just sold 77½ 16s., and arrears on calls 143½ 17s., to 216½ 12s. A call of 2s. per share was made. The report from Capt. Edward Davies, after detailing the operations in progress at the mine, stated that "the composition of the lode in Prosser's level has entirely changed during the past two months. The last cross-cut in the end of the level has intersected the commencement of a course of ore ground; the lode is 10 ft. wide, from north to south walls, and is subdivided by two branches or joints, which form the lode into three divisions; the central division is 5 feet wide, composed of capel



North side of the middle portion of the lode there is a great 'loch,' or vugh, filled with a gossan matter, chiefly oxide of iron, each side of this loch having an incrustation of crystallized quartz. Evidently some mighty process is, or has been, going on in this one of Nature's laboratories, and it is hoped that it will prove to be the mineralisation of the lode. At the end of October they shipped 6 tons 13 cwt. of lead, per the *Shive*, and have now about 5 tons dressed. If the weather continues open, they will dress from 8 to 10 tons this month. The cost for December will be from 120*l.* to 130*l.*, and which, it is expected, there will be sufficient lead dressed to meet.

At the Dyffryn Mining Company's meeting, on Wednesday, the report of the resident captain, with a supplemental statement, and the accounts, were read. The present account showed receipts and expenditure for the past four months, the agent having neglected to forward the accounts in due time for the previous meeting. From those then submitted, it appeared that, during the past four months, the ores sold amounted to 118*l.* 4*s.* 9*d.*; in addition to which, the amount received for calls was 663*l.* 7*s.* = 781*l.* 11*s.* 9*d.*; while the cost for the four months ending Nov. amounted to 714*l.* 3*s.* 8*d.*, and sundry payments, 23*l.* 11*s.* 10*d.*; in all, 737*l.* 15*s.* 6*d.*—which, added to the balance due on the former account of 239*l.* 15*s.* 1*d.*, gave a total of 977*l.* 7*s.* 7*d.*, thus leaving a balance of 195*l.* 15*s.* 10*d.* carried forward against the mine. The amount of calls in arrear was stated to be 31*l.* 16*s.*, and the assumed return from sale of ore, not included in the account, 63*l.*

At the Trebuck meeting, the accounts for Sept. and Oct. showed—Balance from last account, 1057*l.* 0*s.* 8*d.*; costs and merchants' bills, 539*l.* 18*s.* 7*d.* = 1596*l.* 19*s.* 3*d.*—By call in October, 1024*l.*: leaving balance against the adventurers, 572*l.* 19*s.* 3*d.*

At Pendarves Consols meeting, the accounts showed a balance against the adventurers of 312*l.* 3*s.* 7*d.*, on the operations of the preceding three months. The cost up to the end of Sept., including merchants' bills due, was 793*l.* 16*s.* 10*d.*; to which added balance at last account, 753*l.* 7*s.* 6*d.*—By cash on calls and ores sold, 1235*l.* 0*s.* 9*d.*: leaving balance as stated, in liquidation of which a call of 10*s.* per share was made. The report of Messrs. Richards and Thomas, read at the meeting, contains no feature of peculiar interest.

At the South Tamar Consols two-monthly meeting, the accounts showed—Mine cost for September, 636*l.* 7*s.* 11*d.*; October, 634*l.* 15*s.* 9*d.*; discount, 5*l.* 15*s.* 8*d.*—1276*l.* 19*s.* 4*d.*—By amount received in cash, and bill for ores sold, inclusive of balance of last account, 2267*l.* 15*s.* 8*d.*: leaving balance in favour of mine, 985*l.* 16*s.* 4*d.*—The balance of assets over liabilities is 1456*l.* 13*s.* 1*d.*. The estimated payments before the next meeting are 1479*l.* 3*s.* 3*d.*, and the value of ores to be sold this month is calculated at 1300*l.*. The accounts were passed. Two reports, from the managing agent, were read, stating that there is a great improvement in the 30 fm. level—the lode in the bottom being worth 20 to 25 cwt. of rich ore for silver. About 90 tons of ore will be sampled shortly.

At the East Tamar meeting, the statement of accounts showed—Expenditure for the last two months, 1175*l.* 17*s.* 9*d.*; by balance of last account, 489*l.* 8*s.* 1*d.*; cash on account of call, 666*l.* 10*s.*—leaving balance against adventurers, 55*l.* 19*s.* 8*d.*. The estimated liabilities, including payments for the next two months, amount to 1467*l.* 18*s.* 4*d.*; while the estimated receipts during that period are 2984*l.* 19*s.* 11*d.*: leaving balance of assets over liabilities, 1517*l.* 1*s.* 7*d.*. Reports from Mr. J. Wolferstan were read to the meeting, in which a gradual improvement of the lode at the 70 fathom level is noticed; the other ends, and all the pitches being as productive as before, while there is a prospect of an increased quantity of ore, estimated at 70 tons, for the next sampling.

The report read at the first West Providence meeting from the purser, states that the steam-engine and pumping machinery are in course of construction. It is expected that a quantity of silver-lead ore can be brought to surface when the water has been forked, and the indications generally are highly favourable for the prospects of the shareholders.

The accounts presented at the Gustavus meeting showed a loss on the three months' operations to end of Sept. of 1272*l.* 15*s.* 8*d.*. The labour cost and merchants' bills were 1380*l.* 15*s.* 3*d.*; balance of last account, 407*l.* 0*s.* 5*d.* = 1787*l.* 15*s.* 8*d.*. By cash on call, with materials sold, 515*l.*: leaving balance as above. It was resolved, that a call be made *pro rata* in liquidation of the amount. In the report of Messrs. Richards and Dunkin the heavy balance against the adventurers is accounted for by the cost incurred in repairs of engine and other necessary expenses, which for the next 12 months will, it is estimated, be comparatively light. In other respects the report is satisfactory.

At Trowan Consols meeting, the accounts for July, Aug., and Sept. showed—By ores sold (less dues), 390*l.* 12*s.* 5*d.*; call in Aug., 75*l.* 10*s.* = 465*l.* 2*s.* 5*d.*—Balance from last account, 84*l.* 9*s.* 6*d.*; costs and merchants' bills, 375*l.* 3*s.* 7*d.* = 459*l.* 13*s.* 1*d.*: leaving balance, 6*l.* 9*s.* 4*d.*

At Chyprase Consols meeting, a series of resolutions was agreed to relative to the management of the mine, of which Capt. J. Michell was appointed agent—a committee was also chosen. The report detailed the workings since the commencement, stating that the engine-shaft is now down 20 feet, and the sinking is still in progress, measures being in preparation for draining the mine. Capt. Michell states that "a more productive stratum of ground for mineral wealth he never met with," and sanguine expectations of success are entertained when the lodes are cut in the 20 fm. level. A purser and trustees were likewise appointed.

Shares in the following mines have changed hands during the past week: Bodmin Moor, Calstock United, Warleggan, Devon and Courtenay, Praed Consols, East Wheel Reeth, Wheel Tom, Camborne Consols, Trannack United, Mill Pool, West Nant-y-mwyn, Wheel Augusta, Hennock, West Wheel Virgin, East Ballewidden, Cook's Kitchen, Tolcarne, West Alfred Consols, West Providence, Alfred Consols, Bedford United, East Gunnis Lake, East Tamar Consols, Kirkcudbrightshire, Wheel Mary Ann, Trevisis, Trevelyan, Tremayne, Tregardock, Merilyn, South Tamar, West Tolgas, Black Craig, Wheel Prudence, Holmbush, Great Sheba, West Phoenix, Daren, Fortescue, Peter Tavy, and Kingsett and Bedford.

In foreign shares transactions have not been extensive. Business has been done in Imperial Brazilian, Cobre, General Mining, and St. John del Rey, generally at some advance on the quotations of last week. United Mexican fluctuated considerably on Friday, prices varying from 6½ to 5½, but they subsequently rallied, and could not be obtained under 6.

The letters of the Royal Santiago Company give various details of the operations now going forward. In Perseverance Mine, Thompson's shaft is being developed—the lode yielding 4 tons of ore per fm.; and the produce of several of the other workings is nearly the same. In Fortitude a few fathoms had been excavated; but no valuable result has been obtained. In San Joaquin, and the other mines, a series of operations are being prosecuted, with a view to their further development. At present, however, there appears nothing of a very encouraging character, as regards results, to disclose—the workings being in some cases suspended, as the indications do not warrant further outlay. The amount of ore raised in October is stated at 185 tons.

Despatches were received, yesterday, by the United Mexican Mining Association, dated Oct. 28. They give little information of marked interest or importance, if we except the serious illness of Mr. Shoolbred, the chief superintendent of the mines, from which he is now recovering. In the report on the mines a slight improvement is mentioned in the workings of Rayas. The exploration of the vein north-west of the pozo of San Toribio had been commenced, and considerable progress made. In the pozo of Santa Isabel the ore was more abundant, and of better quality; an average production of 65 *hemeneitos* by day and night had been kept up. In Helena Mine the levels had been driven 7-37 varas, without any favourable change; the work had been suspended in the crucero of San Diego, and a cross-cut commenced to the south-east, in a favourable vein. In Promontorio, Jesus Maria, and La Trinidad Mines the operations had produced nothing important; in the last-named mine the drawing and timbering of the shaft was completed, and a cross-cut towards the vein commenced. In Mina Grande some progress had been made in a cross-cut called San Luis, and a small branch vein of good ore had been met with; surface operations also were actively prosecuted. The statement of receipts and payments shows an available asset of \$57,633 4 4, exclusive both of Treasury bonds, and liabilities and current expenditure, being a profit, as shown in the accounts forwarded, of about \$20,000 on the preceding month's working.

The weekly report from Linares, dated Nov. 30, states that San Antonio mine, sinking under the 45 fm. level, has been deepened during the past month. No change of importance in the operations generally is reported. The lode in the 45 fm. level, though irregular, is more productive than before. The tribute pitches for December are set—four at 2 reals, and five at 1½ reals per arroba. The stock of ore at Linares is 132 tons 5 cwt.; at Baylen, 37 tons; at Seville, 34 tons 3 cwt.; at Malaga, 40 tons 6 cwt.; on shipboard, 126 tons 10 cwt.—total amount in stock, 370 tons 4 cwt.

The produce of the quicksilver mines in California is stated in late advices to be greatly increased, a fact having an important bearing on the working of the silver mines, and the relative proportions of gold and silver. It is sold at 1*s.* 10*d.* per lb., a rate which still yields an enormous profit.

By an Imperial ukase, issued at St. Petersburg, which is to take effect on the 1st Jan., a reduction of the import duty on forged iron (not cast or polished) has taken place, equivalent to 25*s.* 11*d.* per cwt.—viz.: from 3*ro.* 63 *co.* per pood to 1*ro.* On sheet-iron 1*ro.* per pood only will be levied, and the duty on tin is reduced one-half—from 60 to 30 *co.*, or 2*s.* 11*d.* per cwt.; while the reduction on tin-plates is still greater, amounting to 24*s.* 11*d.* per cwt.

Mr. T. Allsop, of the Royal Exchange, has furnished the following as his views respecting the present position of mining property:—

The attention of capitalists has lately been attracted to the Cornish and Devon mines, by reason of the continued prosperity to which a great number of mines have attained; and this, not being dependent upon casual or temporary causes, but being based upon improved workings and economies both of materials and labour, promises to be continuous and sustained.

Of the mines most favourably known as in full work, above 40 are at present paying more than 30 per cent. on their cost, whilst a greater number are paying various per centages between 20 and 30 per cent.

In consequence of our convictions that mineral property was inadequately appreciated, we have visited the districts at three separate intervals during the summer and autumn, and have satisfied ourselves that well selected mines in the western district offer sounder and more eligible investments than foreign mines, whilst the returns are much greater than the average of purchases.

Of the extraordinary increase in value of mineral property may be noticed the comparatively recent mine of Par Consols, the cost of which was about 8000*l.*, the return from which have exceeded 20,000*l.* per annum, after defraying all cost and the purchase of materials, stores, &c., to the value of more than 70,000*l.*. The Great Devon Consols, which, on an outlay of 1*l.* only, have divided 70,000*l.* in one year; the West Buller, the shares in which were last year only 40*l.*, are now selling for 77*l.*, and likely to go much higher; and the North Basset, on the rich lodes of which the ore is gained by the tributaries at 6*d.* in the *l.*, who, after paying charges equal to about 3*d.* in the *l.*, earn from 4*s.* to 5*s.* per day. On this latter mine the lode was opened at the time of our last visit at a lower level, and the ores already seen are estimated to increase the value of this one undertaking more than 30,000*l.*

Of the mines which we have personally visited, the Wheal Providence (in the immediate vicinity of the Great Devon Consols, the richest mine in the kingdom), on which much work has been done, and on which the lodes are numerous and very promising; the Par Consols West, a set with a great number of rich lodes, both of copper and tin, one of which is the rich lode of Par Consols, which has produced such immense wealth; and the Bodmin Wheel Mary, a mine of singular richness near the surface, and with not less than 11 promising lodes, many of which intersect, are desirable investments.

## LEAD ORES.

TICKETINGS FOR ABOUT 66 TONS (30 CWT.) OF GLENMALUR LEAD ORE, Wicklow, 7th December.

Bidders.	Tons.	Price per Ton.	Purchasers.
Sims, Williams, Nevill, and Co.—Llanelli (purchasers) .....	10	10 0	Locke, Blackett, & Co.
Panther Smelting Company—Bristol .....	10	0 0	ditto
Thomas Somers—Bristol .....	10	9 12	ditto
J. P. Eytton—Llanerchymor .....	9	3 0	ditto
Walker, Parker, and Co.—Dee Bank .....	8	15 0	ditto
Mather and Co.—Bagnall .....	8	11 6	ditto
Newton, Keates, and Co.—Bagnall .....	8	5 6	ditto

Ticketings at the White Horse Hotel, Holywell, 12th December.

Mines.	Tons.	Price per Ton.	Purchasers.
Maesyrwddu (Talargoch) .....	61	11 18	Walker, Parker, & Co.
Coetia Llys .....	27	12 5	ditto
Hondro .....	11	12 6	J. P. Eytton.
ditto .....	18	11 15	ditto
Fron Fawog .....	14	9 11	Walker, Parker, & Co.
Deep Level (Halkin) .....	50	11 8	ditto
ditto .....	50	11 8	J. P. Eytton.
Talacre .....	20	12 4	ditto
Lloc .....	40	12 4	Walker, Parker, & Co.
Pantysyllt .....	23	12 0	J. P. Eytton.
Craig-y-mwyn .....	23	12 0	J. P. Eytton.
Rhiweth .....	9	13 6	Walker, Parker, & Co.
Shallee .....	41	17 10	J. P. Eytton.
Maehynleth .....	38	12 5	Walker, Parker, & Co.

Mines.	Tons.	Price per Ton.	Purchasers.
Wheal Mary Ann .....	90	10 8	Locke, Blackett, & Co.
Drigith Mine .....	10	11 0	ditto
ditto .....	6	9 10	ditto
Keewick .....	10	11 0	ditto
ditto .....	8	10 10	ditto

## BLACK TIN.

Mines.	Tons.	Price per Ton.	Purchasers.
Drake Walls .....	54	245 12	J. H. Enthoven & Co.
ditto .....	34	40 5	Daubuz.

## COPPER ORES.

Sampled Nov. 27, and sold at Andrew's Hotel, Redruth, Dec. 12.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Carn Brea .....	100	£3 15 0	Alfred Consols .....	36	£13 0 6
ditto .....	93	4 4	Wellington Mines .....	116	5 9 6
ditto .....	89	6 17 0	ditto .....	23	5 17 0
ditto .....	89	6 11 6	ditto .....	8	5 17 0
ditto .....	89	4 16 6	ditto .....	6	15 10 6
ditto .....	77	5 8 0	Levant .....	96	2 11 0
ditto .....	75	7 11 6	ditto .....	66	6 15 0
ditto .....	57	6 11 6	ditto .....	38	6 18 0
ditto .....	54	3 10 0	ditto .....	9	39 0 0
ditto .....	50	2 6 6	West Wh. Treasury .....	63	6 13 0
ditto .....	37	3 16 6	ditto .....	27	3 4 6
ditto .....	24	7 16 6	ditto .....	40	6 4 6
Tywarthayle .....	121	2 16 0	Pulberron .....	90	3 7 0
ditto .....	83	2 18 0	ditto .....	49	2 1 0
ditto .....	80	3 0 0	West Wheel Seton .....	85	4 19 0
ditto .....	56	2 15 6	ditto .....	45	3 16 0
ditto .....	52	8 3 6	Wh. Tremayne .....	56	3 19 0
ditto .....	41	3 5 6	ditto .....	32	4 13 6
ditto .....	17	3 7 0	ditto .....	28	2 10 6
Nancekuke .....	55	2 16 0	Botallack .....	51	7 9 0
ditto .....	53	5 10 6	ditto .....	30	7 9 0
ditto .....	33	0 10 0	West Fowey Consols .....	65	6 19 0
Wheal Buller .....	117	4 15 6	Wheal Agar .....	58	4 19 0
ditto .....	85	4 15 0	St. Aub. & Grylls .....	14	9 1 0
ditto .....	73	7 6 6	ditto .....	13	7 6 6
ditto .....	47	6 8 6	Trannack .....	27	10 15 6
ditto .....	42	8 16 6	Wheal Squire .....	22	10 2 0
Par Consols .....	94	7 12 0	Herland .....	21	4 17 0
ditto .....	88	6 17 6	Wheal Prosper .....	11	4 5 6
ditto .....	62	9 15 6	ditto .....	7	2 17 0
ditto .....	58	7 6 0	Wheal Banns .....	16	3 18 6
Alfred Consols .....	104	4 19 0	East Wh. Treasury .....	10	4 1 0
ditto .....	61	6 14 0	Wheal Trannack .....	5	2 7 6
ditto .....	59	6 14 0	Trenow Consols .....	4	7 15 6

## TOTAL PRODUCE.

Carn Brea .....	827	£4330 4 6	Botallack .....	81	£603 9 0
Tywarthayle .....	601	2033 16 0	West Fowey Consols .....	65	451 15 0
Nancekuke .....	352	2053 17 6	Wheal Agar .....	58	246 10 0
Wheal Buller .....	302	2038 17 6	St. Aubyn & Grylls .....	27	196 11 6
Par Consols .....	260	1787 14 0	Trannack .....	27	290 18 6
Alfred Consols .....	260	1787 14 0	Wheal Squire .....	22	229 4 6
Wellington Mines .....	239	1295 16 0	Herland .....	21	181 10 0
Levant .....	1303	1803 10 0	Wheal Prosper .....	18	65 19 6
West Wh. Treasury .....	154	883 8 0	Wh. Banns .....	16	62 16 0
Pulberron .....	139	401 19 0	East Wh. Treasury .....	10	40 10 0
West Wh. Seton .....	130	591 16 0	Trannack .....	5	11 17 6
Wheal Tremayne .....	116	441 10 0	Trenow Consols .....	4	31 2 0

Average Standard .....	£102 6 0	Average Produce .....	8
Average Price per ton .....	£5 8 0		
Quantity of Ore .....	3674 tons	Quantity of Fine Copper, 292 tons 5 cwt.	
Amount of Money .....	£19,809 17 6		
LAST SALE.—Average Standard .....	£106 13 0	Average Produce .....	6½
Standard of corresponding sale last month, 100 <i>l.</i> 8 <i>s.</i> —Produce, 8 <i>l.</i>			

## COMPANIES BY WHOM THE ORES WERE PURCHASED.

Mines.	Tons.	Amount.
Mines Royal .....	432	£2876 11 0
Vivian and Sons .....	687	3442 1 6
Freeman and Co. .....	440	2204 9 6
Greenfield and Sons .....	617	3411 3 6
Crown Company .....	33	225 17 6
Sims, Williams, and Co. .....	491	2259 7 6
Williams, Foster, and Co. .....	698	3578 16 6
Schneider and Co. .....	276	1431 8 9
Total tons .....	2674	£19,809 17 6

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcells.—Devon Great Consols, Wheal Josiah, Wheal Maria, Wheal Fanny, and Wheal Anna Maria, 1601—West Caradon 336—Marke Valley 334—Fowey Consols 237—Wheal Friendship 201—Holmbush 164—Phoenix Mines 153—Bedford United Mines 122—Wheal Pink 22—Pembroke 2.—Total quantity of ore to be sold, 3172 tons.

Copper ores for sale, on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcells.—United Mines 747—Trevelyan 410—Par Consols 314—South Caradon 238—South Tolgas 205—Wheal Combe 180—Trelawny Consols 114—Wheal Mary (Redruth) 100—West Wheel Jewel 59—West Trelawny 14—Richards' ore 14—Respyrn 6.—2398 tons.

SWANSEA.—There will be no sale till Tuesday, the 31st of December.

## PRICES OF MINING SHARES.

\* \* \* As it is exceedingly difficult to obtain a correct knowledge of all the mines in our list in London, we trust the agents, and others interested, will assist us, by forwarding any corrections with which they may be acquainted—our object being to present as perfect a list as can be procured.

Shares.	Company	Fald.	Price.
5120	Alfred Consols (copper), Hayle, Cornwall .....	24	19 20
1248	Allt-y-Crib (silver-lead), Talybont, Cardiganshire .....	5	—
1624	Ballewidden (tin), St. Just, Cornwall .....	9	10 10½
128	Balnoon Consols (tin), Uny Lelant, Cornwall .....	48	50
303	Barristown (lead), Carrick, Ireland .....	34	—
3550	Bawden (silver-lead), Cornwall .....	74	—
4009	Bedford United (copper), Tavistock, Devon .....	24	6 ½
1280	Birch Tor and Viller (tin), Dartmoor, Devon .....	104	4
1500	Bishopstone (silver-lead), Glamorganshire .....	24	10
5000	Black Craig (lead), Kirkcudbrightshire .....	5	5 ½
8900	Blencavon (iron), South Wales .....	50	12½
1024	Bodmin Consols (lead), Wadebridge, Cornwall .....	4	—
5000	Bodmin Moor Consols (tin and copper), Bodmin, Cornwall .....	1	3½
—	Bodmin Wheel Mary (tin), St. Just, Cornwall .....	5	6½
40	Bolowall and Nanpan (tin), St. Just, Cornwall .....	16	—
1024	Borrington Park (silver-lead), Plympton, Devonshire .....	4	3½
128	Boscan (tin), St. Just, Cornwall .....	10	10
60	Bosorn (tin), St. Just, Cornwall .....	4	6
100	Botallack (tin and copper), St. Just, Cornwall .....	182	200
1500	Briford Wheel Augusta (lead), Bridford, Devon .....	4	—
10000	British Iron, New, Regis (iron), South Wales .....	12	8
—	British Iron, New, Regis (iron), South Wales .....	10	10
2400	Bryn-Arian (lead), Cardiganshire .....	3	2 ½
1000	Bryntall .....	23	11½
107	Budnick Consols (tin), Perranzabuloe, Cornwall .....	52½	10 1½
406	Butterdon (lead), Menheniot, Cornwall .....	1	—
2000	Bwlch Consols (silver-lead), Cardiganshire .....	4	—
1000	Cadgynon (silver-lead), Cardiganshire .....	4	—
1000	Callington (lead and copper), Callington, Cornwall .....	26	6½
4000	Calscote United (copper) .....	5	—
1000	Camborne Consols (copper), Camborne, Cornwall .....	7	7½
3000	Cameron's Steam Coal (coal), Swansea, Wales .....	7	—
1168	Caradon Great Cons. Mines (copper), Linkinhorne, Corn.	7	3
1536	Caradon Vale (copper and lead), St. Ives, Cornwall .....	14	14 1½
1000	Carn Brea (tin and copper), Crowan, near Camborne .....	5	10
1000	Carn Brea (copper and tin), Illogan, Cornwall .....	15	120
3000	Carthw Consols (cop. & lead), Wadebridge, Cornwall .....	4	—
1056	Carvannall (copper), Gwennap, Cornwall .....	21½	60 88
209	Cefn Bruno (lead), Cardiganshire .....	6	10 50
500	Comblawn (lead), Callington, Cornwall .....	58	40
128	Comfort (copper), Gwennap, Cornwall .....	45	100
256	Cordurov (copper and tin), Camborne, Cornwall .....	20	115
200	Cook's Kitchen (copper and tin), Illogan, Cornwall .....	14	9 10 12
1000	Coombe (lead), St. Ives, Cornwall .....	5	3
1000	Copier Bettoun (copper), Crowan, Cornwall .....	10	10 11
900	Court Grange (silver-lead), Cardiganshire .....	10	12
211	Cradock Moor (copper), St. Cleer, Cornwall .....	28	7½
1500	Craig-y-Mwyn (lead), Llanrhaadr, Montgomeryshire .....	8	—
256	Crane and Belawsa (copper), Camborne .....	8	2
1000	Cwm Erfin (lead), Cardiganshire .....	6	6½ 7
2000	Cwm Selson .....	—	4
1000	Cynydd Consols (copper), Cardiganshire .....	60	90
7100	Daren (silver-lead), Cardiganshire .....	2	3
1040	Derwent (silver-lead), Durham .....	10	—
1024	Devon and Courtenay Consols (copper), near Tavistock .....	6	1 1½
1024	Devon Great Consols (copper), near Tavistock .....	1	245 250
1000	Diurdoe (copper), Ireland .....	2	5
180	Dolchoath (copper and tin), Camborne .....	252	18 20
2560	Drake Walls (tin and copper), Calscote, Cornwall .....	6½	2½ 3
3000	Dunstan County Coal (coal), Durham .....	45	5
2000	Dwynnig (lead), North Wales .....	10	—
1024	East Balleswidden (tin), Sancerro, Cornwall .....	3	14 1½
2500	East Birch Tor (tin), North Bovey, near Ashburton .....	3	3
1024	East Buller (copper), near Redruth, Cornwall .....	2	6½
128	East Carn Brea (copper), Redruth, Cornwall .....	1	3
2048	East Crevadulle (tin), Tavistock .....	74	14
1000	East Daren (lead), Cardiganshire .....	14	51 52½
1500	East Godelphs (copper), Crowan, Cornwall .....	134	13
4000	East Gwennap Consols (copper), Gunnis Lake .....	4	11 1½
1024	East Polgooth (tin), Cornwall .....	1	—
128	East Pool (tin and copper), Pool, Illogan, Cornwall .....	244	105
256	East Soton and Wheel Maude, near Redruth, Cornwall .....	—	4½
1024	East Sharp Tor (copper), Cornwall .....	—	8
9000	East Tamar Consols (silver-lead), Beer Ferris, Devon .....	12	14 1½
256	East Tolgus (copper), Redruth, Cornwall .....	14	9½
1000	East Trescoll (tin), Lanivet, near Bodmin, Cornwall .....	1	2 2½
128	East Tywardreath (copper), St. Agnes, Cornwall .....	1	—
94	East Wheel Crofty (copper), Illogan, Cornwall .....	124	110 120
256	East Wheel Francis, Illogan .....	5	5 1½ 6
2048	East Wheel George (copper) .....	1	10
512	East Wheel Josiah (copper), near Tavistock .....	14	2
512	East Wheel Leisure (copper), Perranzabuloe .....	2	31
1000	East Wheel Reeth .....	8	14
128	East Wheel Rose (silver-lead), Newlyn, Cornwall .....	80	550
128	East Wheel Rose (copper), Tavistock .....	4	6 7½
1280	Esqair Loe (lead), Llanfihangel, Cornwall .....	10	34 4
248	Exmoor Wheel Eliza (copper), South Molton, Devon .....	11	10
494	Fowey Consols (copper), Tywardreath, Cornwall .....	40	30
1024	Froddi Llywyd Mines (lead), Wales .....	14	38
256	Garras (lead), near Truro .....	43	23
1000	Gelli-rhin (silver-lead), Cardiganshire .....	1	5
1000	General Mining Company for Ireland (copper), Ireland .....	14	4
256	Gouanenn (copper), St. Cleer, Cornwall .....	45	250
3000	Gouanna Consols (tin), St. Ives, Cornwall .....	24	7 7½
256	Grambler and St. Aubyn (copper), Redruth, Cornwall .....	80	40
2000	Great Beam (tin) .....	5	6½ 7½
96	Great Consols (copper), Gwennap, Cornwall .....	1000	250
512	Great Wheel Badden (tin and silver-lead), Ken, Cornwall .....	20	100
1024	Great Wheel Consols (tin and copper), Stoke Climsland .....	2	4 4½
1000	Great Wheel Rose (copper), Landed, Lanivet .....	—	5
512	Gr. Wh. Rough Tor Consols (copper), near Camelford .....	25	20
4000	Grova Slate Company, Camelford, Cornwall .....	4	5
1026	Gustavus Mines (copper), Camborne .....	5	6
512	Hawke's Point (copper), Uny Lelant, Cornwall .....	54	7½
1024	Hawkmoor (copper), Calscote, Gunnis Lake .....	5	17
1000	Heington Down Consols (copper), Calscote, Cornwall .....	23	2 3
1600	Hennock (silver-lead), Hennock, near Exeter, Devon .....	2	34
1000	Hendalar (lead), Liskeard .....	16	14 16
1000	Ilberulvan (copper), Ireland .....	12	14
1900	Holmshush (lead and copper), Callington .....	23	20
1024	Keswick (lead), Portlincall, near Keswick .....	2	2 3
787	Kingsett & Bedford (lead & copper), St. Mary Tavy, Devon .....	34	3
1742	Kirkcudbrightshire (lead), Kirkcudbrightshire, Scotland .....	84	53 5½
256	Lamheroe Wheel Maria (copper and tin), Lamerton .....	11	10 11
256	Lanarth Consols (copper), Gwennap, Cornwall .....	—	8½ 9
1000	Lanart Consols (tin), Uny Lelant, Cornwall .....	53	18
1000	Lant (tin and copper), St. Erth, Cornwall .....	17	175
1000	Lewis (tin and copper), St. Erth, Cornwall .....	17	200
100	Lisburne (lead), Cardiganshire .....	94	600
1000	Llywnmales (lead), Cardiganshire .....	50	8 9
5000	Llynvi Iron (iron), North Wales .....	50	50
5000	Low's Patent Copper Company .....	7	7
6000	Marke Valley (copper), Caradon, Cornwall .....	10	3 1
128	Mendips Hills (lead), near Bristol .....	34	14 1½
1000	Mendips Hills (lead), near Bristol .....	34	—
1000	Mil Pool (tin and copper), St. Hilary, Cornwall .....	34	44
256	Mineral Court (tin), St. Stephens, near St. Germoe, Corn.	22	44
1024	Moditham & Marrabro (copper & lead), Botes-fleming .....	7	24 3
1024	Montgomery (lead and copper), Montgomeryshire .....	6	11½ 12
320	Nansogellan (tin and copper), Camborne .....	1	2
2000	Nantos (lead), Cardiganshire .....	34	25
1000	Nant-y-Croft (copper), near Rhayader, Breconshire .....	—	5 5½
5000	Nant-y-Croft (copper and tin), Tavistock .....	2	2
1024	North Buller (copper), Redruth, Cornwall .....	3	10
2000	North Levant (tin and copper), St. Just, Cornwall .....	5	3
100	North Pool (copper and tin), Pool, Cornwall .....	45	420
146	North Roseker (copper), Camborne, Cornwall .....	54	160
256	North Tolgus (copper), Redruth, Cornwall .....	24	12
1024	North Wheel Robert (copper), Walkington, Devonshire .....	14	12
512	North Wheel Voi (tin), Breage, near Helston, Cornwall .....	3	2
128	Par Consols (copper), St. Blazey, Cornwall .....	54	680
1026	Pendarvas Consols (copper), Camborne, Cornwall .....	24	54
1000	Pennard and St. Aubyn (copper), Camborne, Cornwall .....	5	12
4934	Pennant and Craigwen (lead), Wales .....	3	3
2048	Pentire Glass, United (silver-lead), St. Minver, Cornwall .....	5	9
1000	Pentire-hold and tin, Cardiganshire .....	4	6
1024	Pentire St. George (copper and tin), Perranzabuloe .....	214	24 1½ 2
1000	Pentance Consols (tin), Sancerro, Cornwall .....	224	6 7
512	Peter Tavy and Mary Tavy (copper), Tavistock, Devon .....	15	6
1000	Plymouth Wheel Yeoland (tin), Plymouth, Devonshire .....	51	—
1000	Portberron (tin), St. Agnes, Cornwall .....	10	—
2500	Providence Mines (tin), Uny Lelant, Cornwall .....	10	39
1000	Rhyswylid and Bachelodon (lead), North Wales .....	10	—
10000	Rhyswylid Iron (iron), Rhymney, South Wales .....	50	12
5000	Roche Rock (tin), Roche, near St. Austell .....	1	3
2048	Rannaford Cosmbe (tin), Devon .....	24	3½ 4
2048	Snowdon (copper), Carnarvonshire, Wales .....	3	—
256	South Caradon (copper), St. Cleer, Cornwall .....	5	200
2000	South Carn Brea (copper), Illogan, Cornwall .....	10	—
1160	South Carn Brea (copper), Illogan, Cornwall .....	30	—
256	South Friendship Wheel, Aun (copper and tin), Devon .....	30	28 30
256	South Molton (lead), Devonshire .....	124	124
1024	South Plain Wood (copper), Ashburton, Devon .....	34	6 7
300	South Speed (copper and tin), Uny Lelant, Cornwall .....	15	30



## BRITISH MINES—Continued.

Shares.	Company.	Paid.	Price.
9000	South Tamar (silver-lead), Beer Ferris, Devon.....	1	24 24
256	South Tolgus (copper), Redruth Cornwall.....	16	135 160
256	South Treawny (lead), near Liskeard, Cornwall.....	31	62
2000	South Wales Mining Company (lead), South Wales.....	1	1
256	South Wheal Bassett (copper), Illogan, Cornwall.....	104	330
124	South Wheal Frances (copper), Illogan, Cornwall.....	754	640
256	South Wheal Josiah (copper), Calstock, Cornwall.....	2	34 4
280	Sparrow Moor (copper), St. Just, Cornwall.....	30	40
124	Sparrow Moor (copper), St. Just, Cornwall.....	10	60 61
1024	St. Aubyn and Grylls (copper and tin), Breas, Corn.....	24	84 9
94	St. Ives Consols (tin), St. Ives, Cornwall.....	1	80
959	St. Minver Consols (silver-lead), Cornwall.....	1	6
1000	Stray Park (copper), Camborne, Cornwall.....	104	21
9900	Tamar Consols (silver-lead), Beeralston, Devon.....	4	54
687	Tavy Consols (copper), near Tavistock.....	4	4
4000	Tyn-y-Worglod (silver), near Carnarvon, North Wales.....	4	4 5
1200	Tincroft (copper and tin), near Pool, Cornwall.....	7	114 13
698	Toburn (copper), St. Ivo, near Liskeard.....	74	8
1200	Tolcarne (tin and copper), Camborne, Cornwall.....	8	4
1024	Trannack and Bosence, St. Erth.....	1	14 16
1024	Trannack United Mines (tin and copper), Helston, Corn.....	14	44
2048	Trebell Consols (tin and copper), Llanivet, near Bodmin.....	14	14
612	Treburget United (lead), St. Teath, Cornwall.....	1	5
5000	Tregaron (copper), St. Teath, Cornwall.....	1	5
256	Tregaron (copper), St. Teath, Cornwall.....	1	24
256	Tregordon (silver-lead), Wadebridge, Cornwall.....	10	8
256	Trehane (silver-lead), Menheniot.....	1	15
5000	Treleigh Consols (copper), Redruth.....	6	24
1024	Trelusbeck, Stithians, Cornwall.....	1	3
1500	Treyon Consols (tin), St. Ives, Cornwall.....	14	25
2000	Treznant (copper), Helston, Cornwall.....	7	7 84
1809	Treznant (lime quarries), Liskeard.....	24	34 4
96	Tresavan (copper), Gwennap.....	10	130 140
120	Trethellan (copper), Gwennap.....	5	16
120	Trevilley and Barrier (copper), Gwennap, near Redruth.....	130	240
812	Trethvey (copper), St. Cleer, Cornwall.....	7	5
512	Treville (lead), Llewannick.....	1	6 7
604	Trowan Consols (tin), Toward, Cornwall.....	95	80 90
100	Trumpet Consols (tin), Helston, Cornwall.....	2	24
1000	Tydwyl (lead), Cardiganshire.....	2	24
500	Tywardhayle (copper), Illogan and St. Agnes.....	60	374
200	United Mines (copper), Gwennap.....	300	140
5000	Warleggan Consols (copper), Cornwall.....	1	3
1024	Wellington Mines (copper and tin), Perranarboth, Corn.....	64	164
1024	West Alfred Consols (copper), Redruth, Cornwall.....	5	114
124	West Buller (copper), Illogan, Cornwall.....	20	750
256	West Caradon (copper), Liskeard.....	20	95 98
124	West Ding-Dong (copper), Illogan, Cornwall.....	2	8
1024	West Downs (copper and tin), Whitechurch, Devon.....	2	24
512	West Fowey Consols (tin and copper), St. Blazey.....	40	60
2048	West Goginan (silver-lead), Cardiganshire.....	14	14 2
1024	West Nantymwyn (copper), St. Blazey, Cornwall.....	10	11
1024	West Par Consols (copper), St. Blazey, Cornwall.....	10	11
2500	West Polgooth (tin), St. Erth, Cornwall.....	10	54 58
612	West Providence (copper), Illogan, Cornwall.....	45	150
200	West Seton (copper), Camborne, Cornwall.....	45	150
940	West Tolgus (copper), Illogan, Cornwall.....	124	11 12
120	West Trethellan (copper), Gwennap, Cornwall.....	5	20
512	West Wheal Frances (copper), Illogan, Cornwall.....	54	14
1024	West Wheal Friendship (copper), Devon.....	3	4 4
3445	West Wheal Jewel (tin and copper), St. Day, Cornwall.....	12	24
2048	West Wheal Rose (lead), Cornwall.....	24	34
500	West Wheal Towan (copper), Gwennap, Cornwall.....	64	14 15
1024	West Wheal Treasury (copper), Gwennap, Cornwall.....	64	5
1024	West Wheal Virgin (tin), Sancreed, Cornwall.....	2	24
1024	Weston (lead).....	4	4
5200	Wicklow (copper), Wicklow, Ireland.....	5	174
5000	Wicklow (copper and sulphur), Wicklow, Ireland.....	3	34 34
1070	Wheal Adams (lead), Christow, Exeter.....	134	16
1000	Wheal Afton (copper), Illogan, Cornwall.....	10	16
256	Wheal Albert (copper), Cornwall.....	10	29 29
300	Wheal Arthur (lead), near East Wheal Rose, Cornwall.....	17	50
2048	Wheal Arthur, Calstock.....	2	2
3072	Wheal Augusta (tin), St. Just, Cornwall.....	4	24 3
120	Wheal Baf (tin), St. Just, Cornwall.....	10	14
256	Wheal Benny (copper), Calstock, Cornwall.....	194	5
1024	Wheal Bray (copper), Altarnun, Cornwall.....	114	10
2354	Wheal Calstock (copper), Calstock.....	9	10
256	Wheal Carpenter (tin), Gwennap, Cornwall.....	4	54
256	Wheal Courtenay (copper), Cornwall.....	20	24
1024	Wheal Crebor (copper), Tavistock, Devon.....	14	24 3
500	Wheal Daniell (copper), Chacewater.....	5	5
182	Wheal Elizabeth (copper), Redruth, Cornwall.....	9	524
1024	Wheal Emily (lead and antimony), near Plymouth.....	3	54 64
1024	Wheal Fortescue (copper), near Tavistock, Devon.....	44	64
754	Wheal Franco (copper), near Tavistock, Devon.....	134	14
100	Wheal Friendly (tin), St. Agnes, Cornwall.....	70	65
124	Wheal Friendship (copper), Devon.....	120	3
1000	Wheal Gnakis (tin and copper), St. Hilary, Cornwall.....	4	3
4000	Wheal Golden (lead), Peranzabulos, Cornwall.....	2	5 6
1000	Wheal Grose (silver-lead, copper, &c.), near Wadebridge.....	4	5
1000	Wheal-an-Groze (tin), St. Columb Major, Cornwall.....	5	5 6
2560	Wheal Harriet (copper), Camborne, Cornwall.....	1	4 44 5
1024	Wheal Hamlyn, near Gakhampston, Devon.....	134	14
2048	Wheal Harris (lead), near Tavistock.....	4	14 2
216	Wheal Henry (copper), Kea, near Truro, Cornwall.....	8	12
256	Wheal Kingston (copper and silver-lead), Stoke Climland.....	4	12
6000	Wheal Langford (copper and silver-lead), Callington.....	2	24
2000	Wheal Langmaid (lead), Devon.....	4	14
112	Wheal Margaret (tin), Ury Lelant, near Hayle.....	79	180
1024	Wheal May (silver-lead and copper), Ross Fleming.....	14	14
2560	Wheal Mary (copper), Redruth, Cornwall.....	14	74
512	Wheal Mary Ann (lead), Menheniot.....	5	63 65
1024	Wheal Neptune (copper), Perranarboth, Cornwall.....	1	2
1950	Wheal Oak, near Helston, Cornwall.....	14	14
3000	Wheal Penhale (lead and copper), Cornwall.....	2	6
124	Wheal Penly (copper), Redruth, Cornwall.....	19	38 39
124	Wheal Pollard (copper), St. Cleer, Cornwall.....	154	7
210	Wheal Prospect (copper), Redruth, Cornwall.....	4	7
5000	Wheal Providence (copper), Redruth, Cornwall.....	4	2 4
120	Wheal Raeth (tin), St. Ives, Cornwall.....	41	150
1024	Wheal Russell (copper), Tavistock.....	4	4 44
194	Wheal Seton (copper), Camborne, Cornwall.....	107	300
1056	Wheal Sarah (silver-lead), St. Kew, Cornwall.....	5	6
512	Wheal Sophia (copper), Lezant, Cornwall.....	64	7
512	Wheal Spry (copper and lead), St. Columb Minor.....	3	1
124	Wheal Squire (copper), St. Erth, Cornwall.....	1	34
1024	Wheal Stannard (copper), Gwennap, Cornwall.....	1	34
512	Wheal Trefusa (copper), Gwennap, Cornwall.....	64	204 21
1100	Wheal Trevelin (tin), Llanivet, near Bodmin, Cornwall.....	64	6
520	Wheal Trevelin (silver-lead), near Liskeard, Cornwall.....	34	44
256	Wheal Tremayne (copper), St. Ervan, Cornwall.....	11	24
1024	Wheal Tremayne (tin and copper), Gwennap, near Hayle.....	94	20 21
257	Wheal Tryphena (tin and copper), Camborne, Cornwall.....	40	30
124	Wheal Union (copper), Redruth, Cornwall.....	24	38 40
1024	Wheal Vanton (silver-lead), Liskeard, Cornwall.....	24	94
1000	Wheal Vincent (tin), Altarnun, Cornwall.....	54	7
124	Wheal Violet (tin and copper), St. Stephens, St. Austell.....	5	24
124	Wheal Vvay, Peranzabulos.....	3	5
184	Wheal Wyron (copper and tin), Constantine, Cornwall.....	1	60

## FOREIGN MINES.

5000	Alten Mining Company (copper), Norway.....	144	3
12000	Annotto Bay Mining Association, Jamaica.....	1	1
15000	Asturian Mining Company (coal, iron, &c.), Spain.....	15	1
20000	Australian (copper), South Australia.....	4	34
6000	Barossa Range (copper), South Australia.....	24	34
18000	Brazilian Imperial (gold), Brazil.....	13	44
12000	Cobre Copper Company (copper), Cuba.....	40	34 34
10000	Copiapu Mining Company (copper), Chile.....	14	5
20000	General Mining Association (iron & coal), Nova Scotia.....	20	134
5000	Kinzigthal Mining Association (silver), Germany.....	2	2
5000	Linares (lead), Spain.....	2	24
500	Ditto New.....	3	3
8051	Mexican Company (silver), Mexico.....	594	1
20000	Mexican and South American (silver), Mexico.....	8	11
5000	National Brazilian (gold), Brazil.....	30	34 34
104000	North British Australasian (copper), S. A. & New Zea.....	1	1
7000	Royal Santiago (copper), Cuba.....	10	8 9
11000	St. John del Rey (gold), Brazil.....	15	164
43174	United Mexican (silver), Mexico.....	24	64 54 6
1000	Worthing (copper), Adelaide, South Australia.....	2	2

## COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.	Chart's Hartley 15 3—Hedley's Hartley 14—Hollywell 15 6—North Percy Hartley 14 6 to 15—Old Tanfield 14 3—Ord's Main 14 3—Tanfield Moor Butes 13 7—West Wylam 13 6—Wall's End Lawson 15—Belmont 16—Whitworth 13 6—Tees 17—Ships at market, 12; sold, 10.
WEDNESDAY.	Davison's West Hartley 15—Tanfield Moor Butes 13—Townley 13 6—West Hartley 14 6—Wall's End Bewick and Co. 15 3—Gosforth 15 3—Gibson 15—Hilda 15—Northumberland 14 9—Original Gibson 15—South Edon 15 6—Walker 15—Edon Main 15 9—Lambton Primrose 16—Bell 16—Bradley 16 9—Hetton 17—Hawell 17—Kipper Grange 16 3—Lambton 16 9—Lambly 15 9—Searborough 15 9—Hawell 15 6—South Kellie 15 6—Maclean's 14 9—South Durham 15 3—Vernon Tees 15 3—Derwentwater Hartley 15—Ships at market, 51; sold, 45.
FRIDAY.	Bate's West Hartley 14 6—Davison's West Hartley 14 9—North Percy Hartley 14 3—Tanfield Moor Butes 13 3—Townley 13 6—West Hartley 14 6—Wylam 13 6—Wall's End Acorn Close 15 6—Northumberland 14 9—Edon Main 15 9—Bradley 16 6—Hetton 17—Lambton 16 6—Stewart's 17—Kellie 16 3—Whitworth 14 6—Adelaide Tees 16—Brown's Denarys 15 3—Tees 17—Vernon Tees 15 3—West Cornforth 15—Allon Steam 13 6—Whitworth Cokes 21—Derwentwater Hartley 14 9—Ships 25

## THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Dec. 7, was—No. of passengers, 17,787.—Amount of money, £74 2s. 3d.

## NOTICES TO CORRESPONDENTS.

In the "MINING JOURNAL" of the 4th of JANUARY, 1851, will appear the commencement of a SERIES of PAPERS, to be continued weekly, detailing

## The History of Mining,

## ITS RISE AND PROGRESS.

together with NOTICES of the EARLY METHODS of WORKING; ANCIENT and MODERN INVENTIONS, with their subsequent IMPROVEMENTS; comprising also

## A SKETCH OF METALLURGICAL OPERATIONS,

from the EARLIEST PERIOD to the PRESENT TIME.

## The Great Exhibition.

In the "MINING JOURNAL" will also be given a detailed description, with all necessary illustrations, of every object connected with MINING and ENGINEERING, which may be produced at the forthcoming Great Exhibition.

## The Compendium of British Mining.

BY J. Y. WATSON, ESQ., F.G.S.

We have the pleasure to announce, that Mr. WATSON has consented to revise and correct, to the present time, his interesting EPITOME OF BRITISH MINES, for republication in our Journal, and that the first portion will appear on the 4th January next. In the "Compendium of British Mining," it will be remembered, the actual position of the different mines is accurately described, both as to capital and working.

At the end of each year, a copious Index is published, which renders the volume an interesting and valuable record.

"A Linares Shareholder."—The objection referred to, with regard to the proposed smelting operations, on the score of a want of coal, might be more valid, were it intended that coal should be employed. This, we understand, is not the case, wood being the fuel contemplated for the operation, and easily obtainable for the purpose. The practice alleged with respect to the two mines in question is hardly applicable to a country like Spain, where combinations are necessary that are needless where circumstances are so different. The letter of "A Director," in another column, will be found to give much explanatory information on several other points connected with the undertaking.

We have heard of several serious cases of fraud, which have been recently practised; but, as the parties will have to appear in legal proceedings, we feel compelled to withhold for the present the particulars which have reached us; and we regret to find also that a species of jobbery has been practised in some Welsh mines, where very different conduct should have been expected.

Mr. Evan Hopkins is now in Cornwall; communications will reach him by being addressed to his office.

"W. R." (Newcastle).—The attention of Messrs. Fourdrinier has been directed to the subject, and we believe they have instructed their solicitors to communicate with Mr. Winton respecting his letter, which appeared in last week's Journal. We do not know what course will be pursued with Messrs. White and Grant, of Glasgow.

"A Disappointed Shareholder." should address his letter to the directors.

We have received some additional complaints as to the management of Cwm Erffa Mine, and the consequent depreciation of price of the shares, of which we may make further notice. With respect to the charge that all the information received from the mine is but partially disseminated, we can only say, that we will readily publish all the reports furnished us, however lengthy.

"M."—We believe Belfast has been selected.

"A Constant Reader" (St. Just) should have authenticated his statement respecting Wheal Augusta—it should then have appeared.

"A Reader" (Cambridge).—The inspectors are—Mr. J. K. Blackwell, J. Dickinson, M. Dunn, and C. Morton; the district assigned to the latter gentleman includes the counties of York, Derby, Leicester, and Warwick.

"A Subscriber."—We received the letter, but, not being authenticated, and, moreover, somewhat doubting the correctness of its contents, it was necessarily withheld from publication. We should like to have the opinion of some competent authority on the efficacy of the proposed plan, which, if practicable, is really one of considerable public importance, and to which we will readily devote any required space for its development.

"S. R." (Cheapside).—The communication never reached us, or its contents would have been attended to.

"R. G. F." (Hull).—The North Wales Mining Company's property has been inspected by Mr. Evan Hopkins, whose reports are, doubtless, at the company's office, Lincoln's Inn-fields. We have heard that they embody valuable slate and slab quarries; but, however, recommend the parties to inquire at the office of the company.

"A. R." (York).—A report on the mine, and other particulars, appear in our present Journal.

We recommend "An Adventurer" (Hull) at once to consult some respectable broker, who will advise as to the best course of proceeding. We know nothing of the parties named, and never heard of the mine. Any broker will cause inquiries to be made in the locality; and, if required, obtain a report from an independent agent.

Richardson's Portable Steam-engine is constructed with four carrying wheels, for the purpose of being moved from place to place, and to suit various kinds of work, as sawing, thrashing, pumping, grinding, crushing, hauling, winding, &c.; its boiler is of different from any other engine of a similar kind, being on the principle commonly known as the Cornish boiler, which surpasses every other for economy; it is made to consume any kind of fuel, such as cluders, anthracite, slack, breeze, peat, turf, tan, or any combustible refuse; it is self-acting, and does not require an engineer to attend it, cannot well get out of order, as all its parts are of the most simple construction, and nothing but what can be repaired by a country smith. It is fitted with every surface requisite to put a mine down 20 to 40 fathoms, and consists of a smith's shop, forge, bellows, anvil and tools, engine-house, store-room, and count-house, all in iron, with poppet heads and shears, windlass, horizontal steam whim, rope and kibble; the whole can be erected in 24 hours, at a cost of less than 50*l.*; it is admirably adapted for proving lodes on the underlay in experimental mining, and will be the saving of hundreds of pounds, by obviating the necessity of driving long and tedious shafts to adit levels. May be had complete, according to size and power, from 350*l.* to 700*l.*; the workmanship is of the best kind, and guaranteed.—Apply to Mr. Richardson, 15, Old Broad street, City.

The communication of Capt. James Stephens, St. Teath, Camelford, has been received.

"M."—Coal, which is justly considered in this climate a necessary of life scarcely inferior to bread itself, was for a long period rendered dear in the London market by a heavy duty. In 1818 this duty was 7*s.* 6*d.* per ton, and the price 32*s.* 9*d.* The duty was 4*s.* in 1828, when the price fell to 28*s.* 6*d.* In 1845 there was no duty, and coals averaged 17*s.* 3*d.*, and at present sell in the river for about 14*s.* or 15*s.*, though the cost to the consumer is still enhanced by a variety of civic dues, and charges for lighterage, &c. The quantity of mineral fuel shipped coastwise for all the ports of Great Britain in 1818 was 3,450,000 tons; in 1828 it was 4,500,000 tons; and in 1844, 7,377,000 tons.

"T." (Edinburgh) will find, by an advertisement in another column, that the office of the Bedmin Moor Consols is at No. 11, Assinifairs—on application to Mr. Horne, at that address, he will, doubtless, obtain all the information he requires.

THE ELECTRIC LIGHT.—The communication of our correspondent, "Beta," must again stand over; also some remarks on the lecture of Prof. Bachoffner, at the Polytechnic Institution.

The inquiries of several correspondents shall be attended to in our next.

ERRATA.—In Mr. David Muesel's letter on Terrestrial Magnetism, 6th line, for "marks of the fact," read "marks of the past." The date of the letter should have been Nov. 14.

"We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

"It is particularly requested that all communications may be addressed—

TO THE EDITOR,

MINING JOURNAL OFFICE,

26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors

THE MINING JOURNAL.  
Railway and Commercial Gazette.

LONDON, DECEMBER 14, 1850.

THE MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all newsagents, at the Royal Exchange, and other parts of London.

In our last Number we gave a brief account of a meeting of coal-owners at Newcastle, to take into consideration the inequality of duty levied by France on the importation of British coal, and that which is imported into France by Belgium over the land frontier; the result being, that the importation of Belgian and Rhenish coal is about 1,578,000 tons annually, whilst that of British coal is under 600,000. The more detailed report we have since received will justify a few observations on this important subject.

The object of the meeting was, unquestionably, one in which every person interested in the coal trade might well concur, and the resolutions passed were not such as could be easily objected to. Thus, though there was some discussion, there was little real difference of opinion between the several speakers. The Hon. H. T. LIDDELL spoke of the depressed condition of the coal trade, but did not quite settle the question how far it was owing to the peculiar regulations of the coalowners themselves, under which the trade was so many years carried on. One thing is sufficiently manifest—viz., that the coal trade did not flourish under the restrictions introduced into it. The coalowners carried matters with a high hand, in determining the amount of produce for each colliery, and arranging every thing, as they imagined, for their mutual benefit; but the failure of their regulations is confessed by the general complaints we continually hear of their depressed condition. It must be something

more, we fear, than the equalisation of the duties on English and Belgian coal that will raise them to the pitch of prosperity they aim at—apparently, however, without being able to attain. Nothing, certainly, can excuse the gross injustice of making a difference in favour of Belgium in the amount of duty, and the coalowners have good reason to press the matter upon the attention of the Government, in order that the grievance may be represented to the French Ministry, and measures taken to effect its removal. Coalowners, nevertheless, are essentially protectionists, and when Mr. H. TUNN, at this meeting, hinted at the possibility that France levied heavy duties on our coal in retaliation for our exorbitant duties on French silks, brandies, and wines, his sentiments were not very cordially responded to, and he had to endure the ponderous jocularity of Mr. Alderman BROCKETT, in an attempted refutation of the argument. Brandy and silk, argued the Alderman, were luxuries, while coal is an article of the first necessity—forgetting that it is as necessary for France to find an outlet for these productions as for England to get rid of



pany will henceforth be of that nature which will well justify the course pursued, and be the means of restoring to the shareholders a portion at least of the large capital invested. It is not our intention to advert to errors, to say the least, into which those on whom the management devolved at home or abroad may have fallen, but to treat the matter as it stands at the present moment, with the hope that all angry or excited feelings may be allayed, and that the results attendant on the arrangements effected, may prove the correctness of the course taken.

The application to the Court was, that the company might be wound up under the Winding-up Act, to which an opposition was raised by several shareholders, on the ground that an arrangement had been made with certain capitalists for the disposal in part of the property, which it was contended was calculated to be far more beneficial, and such would appear to be the view entertained by the VICE-CHANCELLOR, on which some remarks will be found elsewhere. The matter being now disposed of, at least such is our hope (for the delays and cost attendant the law courts are at all times to be regretted, if not deprecated), it may be well to review the position of the company, or rather, we should say, to see what are its present and future prospects.

A brief statement of the arrangements made for the active resumption of the works will not only be of interest to those embarked in the undertaking, but may be productive, in some measure, of ulterior advantages. Our readers are already aware that certain parties have agreed with the present company to pay 20,000*l.* for a moiety of the mines and property belonging to them, in manner following—i. e., 6000*l.* cash, and the residue in bills, at three and six months, and, moreover, have agreed to further advance a sum not exceeding 15,000*l.* as floating capital, thus making, together, a cash advance of 35,000*l.*, on which they are to receive interest at the rate of 6 per cent. per annum out of the profits, before any dividend be made to the shareholders. The mine, or company, is to be divided into 16,000 shares, of which 8000 are to be allotted, with 10*l.* assumed to be paid thereon, and not subject to any calls, to the present shareholders, the residue being held by the parties supplying the capital. It has also been stipulated that the costs from the 1st June last are to be borne by the new company, who, moreover, take certain bargains entered into by the directors, whereby a considerable sum (say, 1000*l.*) will be saved; at the same time, that the iron sold, and the assets available, amounting to 4000*l.* and upwards, are secured to the present shareholders; so that after payment of the debts a considerable balance will be left for division, in addition to the right of one-half of the property, and the capital to be applied in carrying on the undertaking.

It is, we believe, generally understood that the committee of the Stock Exchange have decided that the experiment of admitting mining transactions within their precincts shall be tried at the beginning of the year—we say "experiment"—for even those most conversant with mining matters do not profess to foretell with confidence what will be the actual result. The only point in which all seem to be agreed, is that the members of the Stock Exchange are profoundly ignorant at present of mining affairs, whatever they may become. It is, consequently, a matter of much curiosity with some persons how they are likely to deal with that of which their knowledge is so remarkably small. In what manner they propose to test the value of the mines they condescend to admit, is also a subject of curious speculation, since it is manifest that their own sources of information must be inadequate for this purpose—in fact, the more we reflect on the necessity of obtaining correct particulars, in order to judge of the value of shares, and the prospects of each mine, the less likely it appears that the "committee" should be able to give general satisfaction in their new functions.

It is, perhaps, not too much to affirm that the project for transferring mining business to the Stock Exchange has arisen under cover of the outcry raised against mine brokers and agents for an alleged undue regard to their own interests, in preference to those of the public. General charges of this sort can never be wholly disproved, since there must be many to whom they will apply, however honourable may be the body among whom the latter are comprised. True, or false, however, it has served as an all-powerful reason for urging the change now contemplated, and which, we presume, will shortly be carried into effect. Without impeaching the virtuous resolve of the Stock Exchange Committee to put a stop to all fraudulent and nefarious dealings for the future, it is pretty obvious that the increasing extent and importance of mining negotiations has been the real temptation to the transfer, and that such alleged questionable doings might have existed along enough, had not the new field of enterprise appeared sufficiently lucrative to induce the wish to share in the rewards it offers to the moneyed speculator.

From a letter in one of the daily journals, we gather that "the committee intend to have the advice of independent persons of known abilities and character, who must be above suspicion, and totally free from share dealing," in deciding on the mines that will be allowed to come on the Stock Exchange. This procedure, it may be safely asserted, will give rise to a goodly crop of jealousies and feuds of all sorts, to say nothing of the commentaries of those who may feel themselves aggrieved by the decisions thus arrived at. It would appear from this, that behind the committee, there will be a secret tribunal sitting in judgment on the various speculations brought under their notice, and which they may have their private and special reasons for approval or denunciation. It will be interesting to ascertain on what principle a mine will be allowed or excluded, and what amount of successful results will justify its admission in the sacred list of Stock Exchange speculations. The "independent persons" referred to will have a somewhat invidious task to perform, and no doubt will be prepared to hear their motives unceremoniously questioned, and their judgment at times roughly impugned. They will be fortunate indeed if this does not prove to be one of the most marked, if not the most salutary, results of their labours.

We do not question the probability of much benefit to the mining interest from an alliance with the Stock Exchange, nor the general stimulus to mining enterprise to be anticipated from such powerful patronage. The value of such speculations would, doubtless, be brought far more prominently before the public than is the case at present; and the importance of an authorised list of quotations can scarcely be overrated. It is the conditions only on which these blessings are to be realised that really concern those engaged in mining negotiations. These will be, we trust, such as may prove generally acceptable, involving only so much of restriction as is needful to purify the mining body from the taint of share jobbing, and remove the suspicion attaching, in some cases, to the speculations with which they are connected.

The communication from New Zealand, which we have inserted in another column, comes very appropriately on the eve of the annual general meeting of the NORTH BRITISH AUSTRALASIAN COMPANY. It will be observed that the writer gives full authority to publish his remarks, and holds himself responsible for their correctness. Surely, the shareholders cannot any longer persist in the course they have been pursuing. Surely, they are by this time convinced of the ruinous mode in which their colonial affairs have been managed. Indeed, if we are rightly informed, there has been for some time an increasing conviction among the proprietors that they have committed the most suicidal act in treating so contemptuously the observations that have appeared at various times in this Journal, and in rejecting the sound and judicious advice frequently tendered by Mr. J. H. MURCHISON, particularly at the annual general meeting last year. It would be superfluous to refer to our numerous warnings, and to the exertions we have made to ensure the proper and judicious management of what we have always considered, and still believe, to be a valuable property. We were not listened to, and now, if we mistake not, the Scotch partners have at this moment amongst them one of their own citizens, who has very recently had ocular demonstration of the truth of our remarks, and who unhesitatingly bears testimony to that effect. Our advice repeats the fact of the abundance of the copper ore, and that it only requires the management of experienced persons to render it a profitable concern. But how unaccountable the conduct of the manager! If the statements made in our advice be correct, which we have no reason to doubt, the course he is pursuing cannot be excused. It will be observed that our correspondent has been compelled to commence two actions for damages against him, one for 1200*l.*, and another for 2000*l.*! We do hope that the proprietors will allow the consequences of such a policy to fall on the proper quarter; it would be absurd to suppose that the officers and agents of a public company are to be unconditionally guaranteed

against the results of all their acts, and that self-will or negligence are not to bear their own responsibility. We look with some interest for the proceedings of the meeting to be held on Monday.

The decision in the matter of the ASTURIAN MINING COMPANY is important in two respects—firstly, to the parties directly interested; and next to the public, as tending to show a definite intention on the part of at least one of the branches of the Court of Chancery, to restrict the operation of the Winding-up Acts, by excluding a class of cases to which they were supposed to apply, and that on the ground of absolute judicial discretion. It is not for us to say that the case was or was not tried by its merits; or that undue weight was given to this or that testimony. There is, however, enough on the face of the judgment to warrant the supposition that the judge himself considered that it was a case in which the parties might be advised to appeal; for though we have observed other cases refused without costs, we do not recollect noticing the addendum to any other order, putting the petitioners under terms which would open the question of costs on appeal.

Since the retirement of Lord COTTENHAM from the bench, there has been admittedly a progressive disinclination on the part of the Court to give effect to the statutes in question. Counsel in a recent case described the phases of transition thus:—The first stage was when the Court indiscriminately made the Acts applicable to all cases having the least colour of pretension; the second when the Court paused to institute inquiries as to the propriety of this general adoption of a measure which seemed so obtrusive; and the last, when the Court resolved to stem the tide of litigation opened by these enactments.

In the case before us, we feel convinced that we do not transgress in assuming that the resolution adopted during the last stage has, to a great extent, influenced the adjudication on the Asturian petition. But before we animadvert upon its tendency as regards public companies in general, we shall say a few words to both the parties concerned. It is highly important to the respondents to have this case decided in their favour, as until some other judicial change takes place, it secures them from all other similar attacks, provided the petitioners rest satisfied with this order. To the directors, and their friends, we suggest, therefore, moderation in their triumph, and the petitioners we counsel to weigh well their chances in any further proceedings. It will be extreme rashness to plunge into a lawsuit, unless their proofs be so plain and irrefragable, as to amount to positive certainty. Even, then, let them pause upon a careful calculation of the fruits to be derived from a judgment against their opponents. If, after mature consideration of those important points, they find it prudent to maintain hostilities, which may be provoked by a contemptuous refusal of just concessions, no rational man can blame them if redress is sought where there is, at least, one cause of complaint, which drew down the marked disapprobation of Sir K. BARON, in the language of sarcasm, so peculiar to that functionary. On the other side, we urge a timely effort to lull the elements of discord, so evidently excited. Let not men implicated in acts designated, to speak leniently, as "imprudences and improprieties," but which deserved, as was said, a solitary word, which appeared unpalatable to "ears polite"—let them not, we say, set themselves up as judges in their own case. They must offer to the dissentients some effectual check, which will secure the just administration of their affairs; and they must eschew all partiality or vindictive dealings respecting the rights of other shareholders.

In case there should be offered a fair prospect of such a policy being ascendant, we shall be foremost to denounce every attempt to disturb the new arrangement which may be made, for the sake merely of litigation or punishment; but, otherwise, we cannot censure men demanding simple justice, nor can we preach patience, when reasonable demands for protection shall be met in an unconscientious spirit, and resisted, probably, from the common motives of those who fight with the funds of others.

Now, as to the tendency of the judgment here given, to restrict the operations of the Winding-up Act, we venture to predict that few other cases will come hereafter before the Court, save those in which it will be called to "enforce contributions" in the contingency suggested by Mr. ROLT. Is this an admissible reading of the law? If so, our legislators should look to it.—Parliament should so expound the law: or if it be an incorrect interpretation, as we believe it to be, then it is clear that, what is in that hypothesis, a mischievous discretion should be either qualified or entirely annulled. As journalists, our legal dicta cannot go for much in opposition to the luminaries of the law; but we may be permitted to awaken public attention to the necessities of the case, and endeavour to arrest any attempt, *ex cathedra*, to interrupt useful law reforms, by neutralizing, with a side wind, a statute designed and competent to render justice, where justice has heretofore notoriously been denied—in the dissolution of joint-stock partnerships, chaotic and inchoate. We shall, therefore, revert again to the subject, with the hope of arousing the framers of this Act to make some declarative enactment to enforce their intentions.

#### THE ASTURIAN MINING COMPANY.

The petition in this matter, under the Winding-up Acts, of which we gave an extract in our Number of the 9th ult., and which has been so long pending, was moved before Vice-Chancellor Sir Knight Bruce, on Tuesday last, by Mr. Russell, with whom was Mr. Daniells, on behalf of the petitioners. Mr. Wood and Mr. Beales represented two shareholders in support of the prayer. Mr. Rolt and Mr. Bailey appeared for the new trustees and Mr. Lloyd, with Mr. Waley, for the ex-directors, to oppose the petition.

Mr. Russell shortly stated the case, as suggested by the petition (which we need not repeat), without referring to the voluminous affidavits made by both parties.

Mr. Wood urged, that whether the contract, referred to in the petition, was effectual or not, the present was a proper case to be wound-up under the Acts.

Mr. Rolt stated the affidavits of the parties opposing the petition—relying on the contract and the sanction given to it by the petitioners, as well as the adoption of it by the great majority of several meetings—and referred to the present indisposition of the Court to favour proceedings under the enactments.

His Honour said that he had heard that, in two or three cases, they had done good.

Mr. Rolt stated that in two or three hundred they were injurious.

His Honour: Not so many as that, Mr. Rolt; but I believe they have entailed great ruin and misery in many instances.

Mr. Rolt urged, that the cases in which the Court was disposed to render them applicable, were where some wealthy individual was made the solitary mark of creditors' proceedings.—His Honour said it must come to that, whether the present was a case in which the Court was required to enforce contributions.

Mr. Russell, in stating the affidavits, showed that 6000*l.* had been actually received, and partly applied, under the contract, and that the sum of 20,000*l.*, in the whole, would be received, exclusive of the shares.

Upon this part of the case his Honour made some observations, as to the possibility of obtaining such results from a Spanish speculation of this kind.

Mr. Lloyd read an affidavit of Mr. Amory, couched in very strong language as to the value of the terms obtained by the contract, and the risk of proceeding under the Acts, which, it was stated, would have the effect of annulling the contract—a circumstance which seemed to have considerable weight with the Court, as well as the fact that the prior administration were entitled to payment of their services (Mr. Moore, one of the liquidators, having sent in his account for his claim), whilst the services of the present administration were gratuitous.

Mr. Russell then proceeded to reply, but was interrupted by the Court rising.

On Wednesday morning Mr. Russell resumed his reply, and urged that the contract could not be a motive for refusing the order to wind-up; that the petitioners had protested against it on the 5th July, and ever since—since that the laws were to protect a minority—that the directors and new administration were not proper persons to replace the authority established by the company's deed—and that Mr. Gillan and Mr. Amory were implicated in the acts objected to by the petition, in respect to the distribution of the 2500 concession shares.—[Counsel read a passage of Mr. Gillan's affidavit, giving his own explanation of this transaction.]

His Honour asked, could this be correct; and added, if it were so, that there was only one word to characterise it.

It was stated by Mr. Lloyd that the shares he received were for professional services.

His Honour inquired of what profession was Mr. Gillan?—and it was stated that he was a parliamentary agent.

We do not pretend to give more than the prominent features of the arguments. The affidavits were unusually prolix and contradictory; and it would be beyond the limits of our space to insert a detailed note. But as this case may be considered a leading one for the future—the Court itself apparently anticipating an appeal—we give the judgment nearly verbatim.

To dissolve a company whose operations are ended, or to wind up, as it is called, a dissolved company, is not *ex debito justitiæ*. It is a matter of judicial discretion whether to proceed for that purpose under the two Acts of Parliament under which this petition is presented, or to leave those who complain to the remedies which existed before those Acts passed, and which still exist. In the present instance the sale which was negotiated and concluded was, in the unhappy, probably irremediable, state to which the affairs of this company had been reduced, in my opinion, upon the evidence before me, a reasonable and beneficial course. But were the evidence on that subject not such as in my view of the case it is, I should still be of opinion, on the materials before me, that the petitioners, or some of them, have by their conduct precluded themselves from complaining. Will, then, the effect of making an order for winding up the affairs of the company under the present petition have the effect of interfering materially with the sale? Upon the evidence before me, I am of opinion that it would. That circumstance alone, independent of the particular facts which exist in this case, is sufficient, as it appears to me, to prevent the Court from making an order under this petition. That, however, is not all. The past cannot be recalled. Nothing that can be done on this petition will restore property to this company, or render as if they had not been done such acts of imprudence or impropriety, if any, that have been committed. The best must be made of the case as it exists. What, then, is the best course to be taken on the materials before me? The petitioners are not sued, nor are they threatened to be sued, for any debts or liabilities of the company, and if matters proceed as they are at present proceeding, without the inter-

ference of this Court, I am of opinion it is not likely they will be troubled on account of any debts or liabilities of the company. It seems to me, whatever former imprudence or impropriety there may have been, that those who are now practically winding up the affairs of the company are doing so in a proper manner, and with a proper intent, as far as I can judge. No good in that respect is likely to be done by the interference of this Court; and, however desirable it may be thought to enter into former transactions, or to reform the affairs of the accounts, or to charge with the consequences of their past conduct any persons, if there be any, who have misconducted themselves in this matter, the ordinary remedies of the country are open to those who are aggrieved, and to those remedies I leave them. I am here required to exercise a new and special jurisdiction, which I am not bound to exercise, unless, in my judicial discretion, it seems proper for the Court to do so. I am of opinion that I should be doing a more practical harm, much more practical harm than practical good, by interfering, and, therefore, I decline to do so. I, however, do not think that it is a case for costs.

Mr. HARTLEY applied for the costs of the new trustees, or for a declaration that they might retain their costs out of the funds, both of which applications his Honour declined.

Mr. RUSSELL suggested that the petition should be retained for a year, as a protection for the future.

His Honour: You are quite right to mention it, Mr. Russell; but I have considered that point also. I rose yesterday before you concluded to consider that question, as well as the question of costs. I say I have considered it; and I shall dismiss this petition, without costs. Subject to this, that if I so dismiss it, I shall require an undertaking on the part of the petitioners that, if there be an appeal, the costs of the motion in this Court before me shall be at the discretion of the Court of Appeal.—Mr. RUSSELL having given the requisite undertaking, his Honour's order was made in the terms so intimated.

#### FOREIGN TARIFFS—THE IRON TRADE.

The Zollverein gives as a reason for placing high duties on iron, that it is in order to foster and protect national industry, apparently forgetting that the measure only tends to benefit the owners of the different mines and works, whilst those who constitute the greater portion of the trade and of national industry, as founders, engineers, hardware manufacturers, smiths, &c., are deprived thereby of the means of labour, either from non-production of iron, or from its too great cost. The working up of the raw material employs much more labour than is necessary to produce it, the labour expended on castings, implements, machinery, &c., gives to them, on the average, double the value of the raw materials of which they are separately composed. Why, then, should the producers be alone privileged, and the consumers have no right to demand protection from the greatest disadvantage industry can labour under—viz.: protection against the unnecessarily high price of the materials required? A leading protectionist authority gives the production of pig-iron in Prussia, as follows:—1844 (when the duty was first imposed), 1,800,000 centners, employing 14,000 people.—1847 (after which time political disturbances acted to depress the trade), 2,500,000 centners, employing 19,000 people; and for extra coals required, additional 1000=20,000; and appeals to this increase of 700,000 centners, and 6000 workmen, as a conclusive proof of the benefit of the 10 groschen duty. The result was of itself, no doubt, very satisfactory, but that it does not in any way prove the advantage of the system, will be seen by the immense sacrifices that have been made to obtain it. By means of a protective duty, the price of iron has been raised 10 groschen per centner, which amounts on the above 2,500,000 centners to upwards of 833,000 rix dols., making on the additional produce, 700,000 centners, 1½ rix dols. per centner—that is, what could have been purchased for 1 rix dol. per centner has been made to cost 2 rix dols. 5 groschen. Inland manufacturers have, consequently, been paid for 700,000 centners, at 2 rix dols. 5 groschen per centner=1,500,000 rix dols.; whilst without a duty the 700,000 centners could have been had at 1 rix dol. per centner, or 700,000 rix dols.; or, viewing it in another way, only 700,000 centners pig-iron have been gained by the employment of a capital which might have obtained from its owners, without a duty, 1,500,000 centners. For every one of the 6000, the employment of whom is so triumphantly appealed to as a proof of the efficacy of the duty, consumers have, therefore, to pay nearly 140 rix dols. annually. Why, if we were cheaper to pension them all? The country must be lightly indebted to the pig-iron manufacturers who so kindly consent to give employment to 6000 men for the small annual stipend of 833,000 rix dols. (about 50 per cent. above the wages these lucky workmen actually receive!) for this loss occurs annually without any murmuring; no great effort is made to shake off at once and for ever this millstone round the nation's neck, and a capital continues to be sacrificed which could give employment, without loss to any party, to at least 2500 families in other trades, which at present suffer in two ways from the artificial means adopted to increase the iron trade—firstly, by labour and capital being demanded and taken from them, and forced into the iron industry; secondly, by the want of so powerful an auxiliary (in consequence of its cost) as iron. In 10 years the 2500 families have increased to 25,000—a host displaced and swallowed up by the artificial development of 6000, by means of duties on pig-iron!

The increased expenditure caused by the existing duties in the Zollverein on bar-iron is still more considerable. From inland and foreign pig-iron, above 4,000,000 centners of bar-iron are manufactured under a duty of 1½ rix dol. per centner. Shaped iron, small sizes, sheets and castings, are liable to duties of 2½ rix dols. and 3 rix dols. per centner; so that it is under the mark when we say that the duties cost consumers certainly not less than 7,000,000 rix dols. annually. Seven million thalers!—A capital that could procure employment in natural ways for 28,000 people, and taken out of healthy trades that can withstand competition to benefit one that even still remains unsatisfied, and dares, like Oliver Twist, without a blush, to "ask for more."

The consumers of iron in the Zollverein have products of their industry to the amount of 16 million thalers to exchange for bar-iron. Their inland works offer them 4 million centners; the English, 6½ millions! This calls forth a torrent of abuse against "perfidious Albion" from their manufacturers; and the paternal solicitude of their Government compels them to take the 4 millions, without any mention being made of compensation for the annual loss of 2½ million centners bar-iron. Is it not evident the country would be a gainer by the total "blow-out" of a home iron trade that requires such sacrifices on the part of all classes? Those who advocate the high duties, say a compensation takes place by the great increase of consumption on the part of producers, raising the price of all other articles; and that a home market, which is always the most advantageous, is thereby procured. But that by no means meets the question. Is the price obtained for a quantity of produce a better one when paid at home by 4 millions, or when paid by England with 6½ million centners bar-iron? To overcome this, England is used as a scarecrow to keep away competition. Free trade, say the upholders of foreign tariffs, is a new British dodge, invented to deceive and ruin our commerce; and every proposal made to facilitate business and develop trade, as the spirit of the age demands, is called by these would-be patriots "an attempt on the part of England to aggrandise her own interests, and overwhelm us with her manufactures," as though it would be a dreadful misfortune were we to make them a Christmas-box of all our pig and malleable iron; or the world must inevitably come to ruin, or become British property, were duties on iron everywhere abolished; and the iron-works of England, Wales, and Scotland as much the property, and at the disposal of the inhabitants of Paris, Berlin, Vienna, Canton, or New York, as of London, Liverpool, and Glasgow.—[A rix-dollar is 3s. 1d. English, or 8s 25 gros. to the £ sterling.]

INCREASE OF DUTY ON IRON IN AMERICA.—We are informed that it is generally believed, by well-informed parties, that Congress, during the coming session, would increase the duty on iron, and that some fluctuations at that article would, consequently, take place during the next 2 or 3 months.

We learn from Glasgow, that Messrs. Aitken, Mathie, and Co., iron-founders, stopped, with liabilities stated at about 30,000*l.*, and with assets estimated at from 10s. to 13s. in 1*l.*—the alleged cause being speculative purchases in pig-iron.

According to the *Breslauer Zeitung*, a decree has been published in Austria, prohibiting the purchase and sale of copper ore. It appears that many persons were in the habit of accumulating large quantities of copper, for the purpose of providing themselves with, at least, one sort of valuable metal, in case a national bankruptcy should lead to a repudiation of the paper currency. The competition which ensued, and raised the price of pure copper to 100 florins per cwt., proved a serious annoyance to the operations of the Ordnance Department. Hence the decree.

The following is extracted from a letter, dated Barancas, Nov. 2, relative to the Venezuelan gold diggings:—"The mines of Yuruary have caused great excitement. About 3000 persons are already on the spot, and strangers are arriving daily. The Governor intends imposing a duty on the mines, but I do not know whether it will be carried out. One thing is certain, that the mines are rich enough; a little more than a month ago pieces of gold were taken up, weighing each from 12 and 15 to 18 piastres." In spite of the height of the waters, the miners are in activity.

IRON-WORKS IN AMERICA.—In 1840 there were 115 works, and in 1850, 205—showing an increase of 93.



## ON PATENT LAW REFORM.—No. II.—HEATH'S PATENT.

BY DAVID MURPHY, ESQ.

I have already stated that, at the date of the patent, Mr. Heath used the carburet of manganese in its prepared state; and the process was so named in the specification—as the introducing from 1 to 3 per cent. of carburet of manganese in the melting pot with the cast-steel. Subsequently, it occurred to him, as is most natural in the progress of metallurgical operations—the valuable effect of the carburet having been ascertained—to introduce the elements of which carburet of manganese is formed, in proper proportions, into the melting pot at once, and thereby save the cost and labour incurred by a separate operation for preparing masses of carburet—an economy which was very great, because nothing is better known than the long-continued heat required to penetrate any considerable quantity of carbonaceous matter; whereas the degree and continuance of temperature required to melt several pounds of steel was far more than was needed to perfect a few ounces of carburet. Having made this improvement, he forwarded to his agent, the defendant, packets of the elements properly compounded, in place of the carburet previously used, stating at the same time that the economy thus effected would enable him greatly to reduce the license dues for using the patent, and the amount of that reduction was named. Had Mr. Heath taken out a second patent for this improvement, he would have avoided the particular defence set up against him; but a man of understanding is never prepared to give others sufficient credit for the amount of their ignorance or incapacity. That the process was virtually the same, whether the carburet of manganese were formed five minutes or five years before forming the steel, he could not suppose could be called in question. Whether it were manufactured by using one pot or two, it gave the effect for which the plaintiff designed it—the improvement of the cast-steel. He whom it most concerned was satisfied of that, and he knew he was pursuing strictly the letter of his claim—"the use of carburet of manganese in preparing an improved cast-steel." He had no reason to suspect treachery in an agent who was addressing him in terms of gratitude, still less could he have imagined, in the case of treachery occurring, that the ministers of justice would have been found at the culprit's right hand to set their faces against the light of science, and confound truth for the purpose of perfecting fraud.

The first division of the judgment of the Exchequer goes to show that as the plaintiff had specified the introduction of carburet of manganese into the melting pot, and as the defendant did not introduce that identical substance, but the elements of it, as supplied to him by the plaintiff, he had not directly infringed the patent—meaning, of course, the terms of it. This very obvious part of the judgment is gone through at length with great pains, stating every detail very correctly as bearing against the plaintiff. Had equal space been bestowed upon the last few lines, which contain the pith of the matter, there would not have existed in a small compass the greatest amount of perversion and contradiction which ingenuity ever packed together. "Then comes the question whether he has indirectly infringed the patent by imitating and using the same process substantially, but making a colourable variation. Now, there is no doubt, we think, if a defendant substitutes for a part of a plaintiff's invention some well-known equivalent, whether chemical or mechanical, he would, probably, be considered as only making a colourable variation; but he has not done so. It is quite clear upon the evidence that the defendant never meant to use carburet of manganese at all. He certainly never knew, and there is no reason to suppose that, prior to this investigation, any one knew that the substance would be formed in a state of fusion; and it is mere matter of speculative opinion (though after the verdict we must assume it to be a correct opinion amongst men of science) that it would, but it was not clearly ascertained, and still less was it a well-known fact. There was, therefore, no intention to imitate the patented invention; and we do not think the defendant can be considered to be guilty of any indirect infringement, if he did not intend to imitate at all. In this view of the case it becomes unnecessary to consider the other questions which were argued; and we all think the rule must be absolute to enter a verdict on the first issue for the defendant." Lord Chief Baron: "As I was counsel in another cause, which was similar to this, I have taken no part whatever in this in any stage."

Now, passing for the present the unparalleled logic, and the scientific inaccuracies of this judgment, which leave the impression that there was a determination at any cost to overthrow the patent, the main idea which arrests the mind in the perusal is that the judges must have forgotten where they were, what they were doing, and what was the nature of the issues depending on the cause. In a momentary oblivion of all but the past, they appear transported to the acute and pleasant regions of Yorkshire, planted amongst old friends on the circuit, redolent with gratitude for former hospitalities, fighting old battles over again, and straining every nerve to rescue some hapless friend, whom accident had made a criminal, from the fangs of a merciless and vindictive prosecutor. If a criminal be arraigned for murder, and the evidence can be contracted within the limit of manslaughter, the jury must acquit him; or if the indictment be for manslaughter, and the proof amount only to unintentional or justifiable homicide, the jury must still acquit. It would be hard to punish for a blameless accident; or, if found guilty, the judge may measure the sentence by extenuating circumstances. But the cause before the Court had nothing to do with criminal law; still less is it a part of that law that if a man be killed by accident, the offender may take his money. The defendant was not under a malicious prosecution for theft because he had stepped over a land-mark by accident; neither were the judges as counsel for the prisoner, according to the old maxim, shielding him from conviction, by showing that he stepped over in pure ignorance, and evacuated the moment he had warning. It was a civil action to try if the trespasser had a right in the soil. He had crossed the fence, and squatted within the plaintiff's boundary, and maintained at law his right of possession. The jury found the fact against him; but the judges, as if in admiration of the sturdy provincial impudence with which he persisted in his wrong, overruled their verdict by the novel exposition of law, that the defendant having been ignorant (which they assumed against the evidence) when he began the trespass that the land was not his own, he thereby acquired a permanent title to it, involving the further consequence that plaintiff's title had ceased, not only to the individual spot where defendant built his hovel, but that he lost all title whatever to the whole extent of land within the boundary defendant had crossed, and, therefore, his estate must be thrown open to the public; so that whether a criminal is to retain the purse of a man whom he knocks down by accident, or a suitor have good title to any premises he enters unintentionally, the civil and criminal code are enlightened by a new application of the doctrine of chances. We are at once conducted by the fortunate goddess into that realm—

—Where Chaos untried sits,  
And by decision more embroils the fray  
By which he reigns, next him High Arbitrer  
Chance governs all.

It has hitherto been common to warn a criminal against severe punishment on repetition of an offence. We now learn that perseverance in crime is his best title to reward. But this is the law of the case; my province is with the scientific and practical details. That it is not the law of equity the Chancellor testified in his refusal to credit the possibility of the decision, when quoted to him as a precedent for inflicting a similar injury. A man's intentions may affect his own conduct; but how my right in any property can be affected by the intentions of the thief who steals it is an enigma. A Jesuit may take a heretic's life with a good intention. This doctrine of intention may suit the meditations of a Popish casuist, as indeed it has well suited as one strong feeder in the great scheme of simony, which was the foundation of their worldly power; but I trust we shall never again see the judicial bench justifying a transference of property on the plea of the Jew's diary, that the gold watch detected in his pocket "dropped in by accident."

To conclude with the science of the judgment. It is admitted therein (cautiously) that the use of a well-known equivalent would have been held a colourable variation; and this notion runs throughout the whole quotation, as it is stated farther on, as a reason for destroying the verdict, that the fact of the elements of carburet of manganese forming the substance in a state of fusion was not well known. I do not clearly apprehend what the judge's idea is in this remark, because there is no other way known of forming carburet of manganese except by producing fusion; it has no other mode of coming into existence; but whatever this confused expression means, how singular a conception is betrayed of the principle and nature of scientific discoveries. The basis on which a patent must be granted is its novelty, yet it is laid down that it can only be infringed by something that is well known. What is the definition future patentees are to attach to this phrase? By whom, or what class, must a fact be known before it is well known? Suppose a patent taken for a process in which there was a novel use of soap. Now, soap is formed with fatty matter

and alkali, precisely as carburet of manganese is formed with carbonaceous matter and oxide of manganese. If defendant had evaded such patent by introducing, instead of soap, as specified, fatty matter and alkali, and thereby obtained the same result, would this have been a colourable variation? Is the composition of soap sufficiently known to be well known? Are the soap-boilers a class whose evidence, in Baron Parke's opinion, would be sufficient to establish a fact? Lord Abinger would not even have heard them, until they had been boiled in their own liquor; for, mark, it is not the fact itself, but the kind of knowledge of the fact existing in the mind of some other people that is to guide the decision. The same metaphysical distinction drawn respecting the intention of the culprit has now to be applied respecting the knowledge of some one else in the rationale of the process. In whom, then, resides this property-giving knowledge in facts, which must be, at the same moment, strange and familiar, new and old? Soap-boilers, trust not yourselves to patents, till you learn from the Exchequer if you are capable of knowing anything well. But granting that familiarity with soap confers the benescent faculty or endowment, let us test a more recondite case. Suppose at the time when sulphate of quinine was first discovered a patent taken, in which the use of this salt was specified, and that in the same process, to effect the same object, the pirate had introduced sulphuric acid and powdered bark. Now, could the judges have pronounced that the composition of sulphate of quinine, by the presence of sulphuric acid and bark, was well known? Would this have been a "well-known equivalent"? I fear not; the fact would have had to be established by the evidence of "men of science;" and as to be known by them is not to be well known, a patent granted on account of novelty would have fallen to the ground, because its details were not old, and of common notoriety, both to the great vulgar and the small.

[To be concluded in next week's Mining Journal.]

## PATENT LAW REFORM.

The second public meeting of the Inventors' Patent Law Reform League was held at Anderson's Hotel, Fleet-street, on Monday, to receive the report of the provisional committee, and advance the general objects of the association.

Mr. JAMES WYLD, M.P. (President of the League), was invited to fill the chair, but sent an apology for his absence, upon which the chairman of the provisional committee took the chair, when the meeting was opened and the report read, which stated that, in compliance with the resolution passed at the former meeting (see report, *Mining Journal*, Oct. 26, 1850), the petition to her Majesty for the immediate reform of the Patent Laws was transmitted to Sir George Grey, and that the appointed deputation had an interview with him and Mr. Labouchere at the Home Office—the proceedings of which were reported in most of the public prints. These Ministers having requested a statement in writing as to the views of the League, such a statement was transmitted to the Home Office and Board of Trade (see notice in *Mining Journal*, 23d Nov., 1850), which had been acknowledged by Sir G. Grey, but not by the Board of Trade.

This report having been read, the first resolution, setting forth that inventions formed the most pure kind of property, and deserved Governmental guarantee without charge, was moved by Mr. STANFORD and seconded by Mr. CAMPIN, and carried unanimously.

Mr. CAMPIN stated that, although the public good required that inventors should be encouraged to the full extent, and, consequently, ought not to be charged anything for patents, yet, he believed, they would be content to pay such a moderate fee as might be found necessary to the efficient working of the reformed Patent Law.

The second resolution, setting forth that the Government is in duty bound to provide rational Patent Laws, and efficient means of administering them, was then moved by Mr. WARD, seconded by Mr. ATKINS, of Oxford, supported by other speakers, and carried unanimously.

A third resolution, proposed by Mr. STOCKER, jun., demanding that the Government should carry out a sufficient reform in time for the opening of the Great Exhibition, was put and carried unanimously.

The following suggestions for the permanent reform of the Patent Law, framed by some members of the provisional committee, were laid before the meeting:—

That the result of inventions forms the most pure kind of property.—That the State, being the conservator of society, is bound to afford protection in the most simple manner to property so sacred, an inventor being regarded a benefactor to society.—That rational laws and an office for the administration of all affairs relative to inventions and inventors be immediately established.—That such office be under the direction of practical and intelligent men.—That such office shall issue periodical publications of its transactions.—That a classified index of all inventions shall be formed by this office, for official use and public reference.—That upon an inventor lodging at the office the outline particulars of his alleged invention, he shall receive a certificate, which will secure to him the right of his invention for the term of two years (except when the inventor can show a sufficient reason for the extension of that term), during which time the particulars of his invention shall be gazetted in the official Journal.—That all patents extend to Great Britain, Ireland, the British Colonies and dependencies.—That the authorities of such office consider the merits of the application as to its originality, and confirm or annul such certificate.—That three months previous to the expiration of the term of such certificate, the inventor shall be called upon, by proper notice from the office, to submit to the authorities a full particular specification for their revision and confirmation; and that such authorities being assisted by the inventor, or his agent, in the final consideration of the specification, it shall be declared perfect, so far as the inventor is concerned.—That it shall be optional with the inventor to have his patent for 7, 14, or 21 years, after the expiration of the registration term, on certain conditions.—That every patentee shall give notice to such office at the end of every year, from the date of his patent, as to whether his invention is in operation or not.—That non-compliance with the above regulations shall subject the patentee to a penalty.—That upon an inventor discovering an infringement of his rights, he shall lay the full particulars thereof before the authorities of such office, who shall examine and decide whether such is an infringement, draw up a full statement of all the facts contained in the charge, and cause such statement to be served upon the alleged pirate, with a demand for an unequivocal answer to the same within the space of fourteen days.—That the complainant shall be examined by the authorities of the office upon the matter contained in the answer. If the alleged pirate deny the charge made by the complainant, the matter shall be referred to the two parties to produce their witnesses and proofs, and the complainant and pirate shall examine and cross-examine each other in the presence of the authorities.—That should the alleged pirate succeed in proving that he has not practised infringement, then the case ends, as far as he is concerned, the complainant paying all expenses. But should he be found guilty, the authorities shall sentence him to pay all expenses, and make such compensation as justice may demand.

After some observations by Mr. CAMPIN, to the effect that these suggestions contained much that was right in principle, although he entertained his own views as to the mode of working pointed out, a vote of thanks to the public press, and the chairman, closed the proceedings.

**PATENT CHARGES.**—In the Court of Exchequer on Monday, an action was brought by Messrs. Poole and Carpmel, the patent agents, to recover from Mr. Bishop, a retired iron merchant, 23l. 11s. 2d., the balance of an account due for work and labour and on account stated, to which the defendant pleaded that he was never indebted.—The counsel stated that the plaintiffs sought to recover the sum as the balance of an account for the professional charges incurred in soliciting and procuring a patent in 1847, for an invention for preventing smoky chimneys. The total of the account was 133l. 11s. 2d.: credit was given for two sums of 10l. and 100l., and the plaintiffs now sought to recover the balance.—Mr. Hoggins, for Mr. Bishop, submitted that some of the charges were unreasonable, representing that at the time the defendant gave instructions to the plaintiffs he was informed by them that the expense would be about 100l., and that 110l. would certainly cover all expenses, and he paid that sum as credited in the account. The fees actually payable in a patent for England, Wales, and the colonies, he contended amounted only to 96l. 8s., according to the following particulars:—Declaration, 1s. 6d.; reference Secretary of State, 2l. 2s. 6d.; report Attorney-General, 4l. 4s.; warrant, 7l. 13s. 6d.; bill Attorney-General, 15l. 10s.; Queen's signature to bill, 7l. 13s. 6d.; Privy Seal, 4l. 10s. 6d.; Signet fees, 5l. 0s. 6d.; Great Seal fees, 49l. 6s. The plaintiffs, he submitted, had charged larger sums, and also items as remuneration for their own trouble of a larger amount than they were properly entitled to. He asked the jury to reduce the claims by the following sums:—Signet-office fees, an overcharge of 1l. 1s.; Great Seal, 2l.; letters, 1l. 1s.; should not be charged. Specification stamp and other expenses, 2l. of overcharge; drawing specification, 8l. 13s. 6d. of overcharge.—The Lord Chief Baron left it to the jury to say whether, in the absence of any evidence to support the case of the defendant, they would discredit the witnesses for the plaintiffs, who had deposed to the charges being such as were usually paid by the public.—The jury returned a verdict for the plaintiffs for the amount claimed.

**IMPROVED THRASHING MACHINE.**—There has been lately erected on the estate of G. B. Thornycroft, Esq., at Hadley-park, an hydraulic thrashing machine, which thrashes the grain, makes the straw into boltings, ruffs the grain, beats the barley, winnows, weighs, and lays it up, ready for the winter. The thrashing machine has a vibrating motion, which brings the straw straight away. The machine is a great improvement on the old system of revolving rakes, which brings the straw away in a broken state. This is the first thrashing machine of the sort ever constructed which does not require manual labour. The inventor is Mr. Morton, of Donnington, near Newport.

**WIRE ROPE.**—About 5 tons of this manufactured article (now beginning to be so generally used), from the depot of the company, passed through this town a few days since, to be conveyed by the South Wales and Taff Vale Railways, to the extensive ironworks of Sir J. Guest, at Merthyr.—*Cambrian.*

Juan Granja has obtained from Congress the privilege of establishing the electric telegraph between Vera Cruz and the city of Mexico.

## RAILWAY ECONOMY.

IRON RAILS FOUNDED ON IRON BLOCK CHAIRS.

As was naturally to be expected, numerous improvements have taken place in the construction of railways, at once conducive to economy and safety; but none of these are likely, we think, to prove more importantly serviceable to railway interests, in both respects, than the substitution of iron for stone and wood in the sub-foundation of the iron rails. We have from time to time noticed an invention of this description, patented by Mr. S. Reed, of Newcastle-upon-Tyne, specified so far back as 1846, for an entire construction of iron railway—i. e., a line constituted of iron alone, so as to supersede the use of stone and wood sleepers, transversely or longitudinally placed, and so compacted, that separation is all but impossible, the chair or chairs and block being one casting. The value of this mode of construction has been so satisfactorily tested, that it is now quite impossible the least doubt should longer exist as to its perfect efficiency, or that a question can arise on the score of economy. An article on the subject has recently appeared in the *Standard*, so entirely supporting our views as to the matter, that we have been induced to add it to our own observations, after saying a few more words on the subject. The superiority of this arrangement of Mr. Reed's over all prior modes of this kind of fabrication, is a greatly-extended bearing, or rest, for the rail, and, consequently, a proportionate diminution of the length of its unsupported part. By this means the objection to the stone block is done away with. The evil, however, which has been attributed to the stone block is an entirely misconceived one. It is not the rigidity of the block which is in fault, but the short bearing for the rail upon its chair, and the long interval of non-support that conduces to the undulatory passing of the engines and carriages, occasioned by the yielding of the rail between the chairs, added to, in no small degree, by the want of competent strength in the rails to carry the undue weights run along them, for this deflection of the rails could not by possibility take place, if the under support of the rail was continuous throughout. Now, Mr. Reed's plan approaches this principle in the ratio of 1 to 2—that is, the length of bearing and iron support being equal; whereas the arrangements hitherto have been 1 to 8, or 4 in. bearing to 32 in. unsupported interval between the chairs, so that the objection alluded to, if not entirely, is in a great measure done away with. The article in the *Standard* alluded to is as follows:—

"Some time ago we directed attention to the great economy which was likely to be realised in the working and maintenance of railways by the introduction of iron for the construction of the permanent way. We noticed that some experimental lengths of this description of permanent way had been laid down upon the South-Eastern line, and that up to the date at which we wrote, it had stood the wear and tear of a very heavy traffic remarkably well. We are glad to hear that subsequent experience confirms the soundness of the favourable view we took at the time of the experimental lengths in question; that the use of iron in the construction of the permanent way of railways is advancing rapidly in this country and on the continent; that a length exceeding 60 miles of single line is already laid down; and that the results arrived at by practical men respecting its economy are exceedingly cheering to the shareholder. The successful results of the use of a durable material in substitution for timber, in the situation where it is peculiarly liable to decay, is an object of obvious advantage under any circumstances; but the extent of its use is by no means confined to the saving of timber, and the economy which has been made by its use in the construction of the permanent way of railways, is in fact, materially affecting the value of railway property. The cost of renewal alone of wooden sleepers is admitted on all hands to be from 70l. to 80l. per mile per annum, or an amount of 500,000l. annually incurred by the railways of the kingdom, and representing an expenditure of at least 10,000,000l. of capital. The only question, therefore, is whether the use of iron is not attended with increased first cost, or some corresponding disadvantages which counterbalance the evident saving to be effected by its adoption. We are informed by excellent authority, that the experience which has been had upon the experimental lengths of iron permanent way spoken of by us, shows that not only is there no corresponding disadvantage, but, on the contrary, that the effect of the solid road as compared with a yielding road, is to increase the effective tractive power, and increase the steadiness of the engine and train, and by that means to cause a reduction both in the cost of locomotive power and repairs of engines and carriages. The use of iron appears to have been in some measure retarded by the impression that it would have defects similar to those of the stone block road, and which defects have, as it seems to us, been made by an error of rigidity, the fact being, we are satisfied, the very reverse. We believe the evil of the stone-block system is not rigidity, but the looseness of the chairs upon them, which produces unevenness, and causes each wheel of the engine, tender, and carriages, to have the effect of a blow upon the ends of the rails. This defect cannot take place when the block and sleeper are cast in one, or when the sleeper, chair, and rail are combined in one. One of the best proofs of the economy of the iron permanent way is to be found in the fact which has reached us, that contractors to railway companies have been induced by the prospect of rigidity, the fact being, we are satisfied, the very reverse. We believe the evil of the stone-block system is not rigidity, but the looseness of the chairs upon them, which produces unevenness, and causes each wheel of the engine, tender, and carriages, to have the effect of a blow upon the ends of the rails. 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## Original Correspondence.

## THE SLATE STRATUM IN IRELAND.

SIR,—In your Journal of the 23d of November last, I noticed your remarks on this subject, which I thought very proper, and to the purpose. You said enough to show the necessity of the parties calling in some one more conversant in slate strata than themselves, previously to sending their reports before the public. Since then the subject has been followed up by remarks from others. Mr. Davies, I have no doubt, is a practical man, and, like most other Welshmen, warmly upholds the superiority of his country. "C. A. P." appears to come in as a side wind to assist Messrs. A. Ashdon and Co.; but he has failed to give us any further insight as to the real value of the quarries he writes about. With your permission, I will make a few remarks on Messrs. A. Ashdon and Co.'s report. First, they attempt to show that the Wicklow slate stratum dips under the Irish Channel, and rises again in Carnarvonshire. If I remember rightly, the large slate stratum at Bangor dips south, which is in quite the reverse direction; but admitting that it dips, as their report states, under the Channel and rises again, and that the Wicklow slate is a continuation of the Welsh slate stratum, how many will they find ignorant enough to embark a single shilling the sooner on that account to carry out the Irish slate quarries? The bait offered resembles too closely what we too often see attempted in mining speculations, in which reports are quoted, stating that the lode is *parallel*, or a *continuation* of this or that lode, in a dividend-paying mine, which lodes, on inquiry, turn out to be 20 miles apart. Messrs. Ashdon and Co. also attempt to show the advantage they have over the Welsh in making *writing slates* and *pencils*—an assertion which at once shows that they have had but little experience in working slate quarries, otherwise they would have discovered that something must be produced more fitted to draw public attention, and more remunerative, than writing slates or pencils, or there would be no dividends. I have no doubt of the fact that there are good slate quarries in Ireland. Had these gentlemen called into their council some practical man, who could have gone into calculation, and shown that Irish slates could be sold in the English or other markets at a lower price than the Welsh, they would then have found no difficulty in getting English capitalists to engage in Irish quarries, inasmuch as the low rate of wages in Ireland certainly offers a very great advantage in working the quarries, and carrying out a speculation of this kind. In conclusion, I would only add that Messrs. A. Ashdon and Co. have only to prove satisfactorily that a sufficient quantity of good slate is to be found within 10 miles of a seaport, and they will find no difficulty in obtaining English capital to give a fair trial to their project.—N. ENXOR: Wiveliscombe, Dec. 11.

## THE SLATE TRADE.

SIR,—Since you have done "C. A. P." the favour of inserting his questions, probably he regards it as my duty to answer them. He states that I failed to contradict Mr. Ashdon's calculations relating to the saving of 11, 10s. 8d. on 1 ton of slabs. What part of my letter leads him to this conclusion I am at a loss to guess; but if, unintentionally, I have failed to render the blunder referred to as clear as could be wished, I am sorry for the deficiency, although I am convinced that the errors in the calculation are far too conspicuous to require to be specially pointed out.

Again, he suggests that I have not very satisfactorily proved that slate service could be purchased cheaper of the London manufacturer than at the Welsh quarries. Now, the prices of both places would demonstrate that such is the fact, which is one easily accounted for. The Welshman considers that, were he to send manufactured goods to any market exceeding 30 to 40 miles from his quarry, unless he realises higher prices there than the local manufacturer, who gets his raw material from Wales, he would lose by the transaction; for, after all the extra care and expense in packing, unpacking, freight, &c., the damage sustained by the manufactured goods is greater than double the freight of a raw cargo. The waste, again, would be less; for what would come from the mills as entirely waste in the neighbourhood of the quarry would be worth, at least, its freight in London and other places.

From these facts, the Welshman rightly believes that he can only meet the Londoner in the London market by manufacturing his goods there, as the Londoner does. A further consideration is, that where he sells (say) six chimney-pieces, and other articles in proportion, within the circle of 30 or 40 miles of his quarry, the London dealer will sell 60 within the same circle of his factory. Nevertheless, the Welshman is not satisfied with less annual income than his fellow tradesman in London, and this he endeavours to realise by charging as much profit upon six articles as the Londoner does upon 60, both being thus equally contented with the relative amount of their transactions.

I am not of opinion that the same stratum is always of the same quality at any given distance, but as Mr. Ashdon had already balanced the scales so heavy to the Irish side of the Channel, I assumed the Bangor Quarry to be thus equalised; but I was aware that this could only be fully proved by the expenditure of thousands during a series of years, and it is with regret that I often witness the absurd practice of coupling new speculations with dividend-paying mines, or quarries, however inconsistent their respective localities with the laws of nature; and until I am convinced that the slate strata of Ireland stand in need of such bolstering up, I will not retract the favourable opinion I may have expressed in the warmth of social discussion.

It is rather strange that "C. A. P." while criticising my letter, should have overlooked my question, except, indeed, that he was unable to give a satisfactory reply. It is not my purpose, even were any opinion, or judgment, I have expressed of sufficient weight, to frustrate any sound speculation; but I cannot help interposing an observation when plans and propositions are put before the public which cannot be realised in Ireland, nor, as I believe, in any other part of the kingdom.

If "C. A. P." has anything to state with reference to slate quarries or strata worthy public attention, let him come forward in an undisguised manner, and I will deal with him as well as I am able, according to his merits; but it is for the first and last time that I address a man who, I have some right to assume, would feel ashamed at being known.

London, Dec. 10.

D. W. DAVIES.

[In consideration of space, we have been obliged to curtail our correspondent's letter, the chief points of which, as he will perceive, are fully preserved.]

## TERRESTRIAL MAGNETISM.

SIR,—Mr. Mushet's explanation of the cause of the deflection of the magnetic needle is very well in itself; but it fails in one very important point—namely, he does not show, either from observations or the analogy of experiment, in what manner the sun can deflect the currents in the way he surmises. Canton's theory would rather seem to meet the circumstances better. He supposed that the influence of the sun weakened the power of the magnetic forces in the parts most, or more directly, exposed to its action, leaving the western forces to act in the morning and the eastern in the evening, and that the needle was deflected according as one or other of these forces predominated; but both these theories are unsatisfactory, because they do not afford an explanation of the nocturnal deflections, when the solar rays cannot affect the electric currents.

The theory I have given to explain the deflection of the needle is briefly as follows:—The sun being an electro-magnet, with currents from its equator to its poles, like the earth, but these currents moving opposite to those in the earth, owing to the different direction of their axial motion, the result upon the magnetic needle would be, supposing the magnetism of the earth away, to reverse the direction of the needle. Therefore, as the needle approaches the sun in the morning, the former deviates more and more from the position induced by the magnetism of the earth, until the sun passes the meridian, after which the needle turns towards the east. On this hypothesis, the cause of the westerly deflection in the early part of the night, and the easterly deflection from 2 to about half-past 7 a.m., is readily accounted for: for during the night the relative positions of the magnetic needle and of the sun are reversed—the top of the needle being presented to that luminary during the day, and the bottom during the night; and, therefore, the easterly movement of the day becomes a westerly one at night, and the westerly variation of the day becomes an easterly change at night. This theory has advantages over any yet propounded, because it goes further, and shows the manner in which the sun produces the observed effect by night, as well as by day, and in both hemispheres.

Had Mr. Mushet performed the experiment himself of revolving a globe of metal, and observed its effects upon a needle in the manner described by Dr. Faraday, or consulted the original description of that eminent philosopher's experiments, he would have found that it was not a very vague analogy to which I committed myself when I stated, as a natural conclusion, "that the earth stands in the same relation to the sun as the ball does to the earth, each revolving in the presence of an electro-magnet;" for it is the very pith of the experiment that, to become an electro-magnet itself, the ball must revolve in the presence of an electro-magnet, or magnets. It is one of a series in the *Bakerian Lecture* for 1842, in the *Phil. Trans.* of that year—the whole of the experiments showing, as they were intended to show, the effects of what he has called *terrestrial magneto-electric induction*. From the analogy of previous experiments, he says that it appeared to him "impossible that a metallic globe could revolve under natural circumstances without

having electric currents produced within it, and circulating in a plane at right angles to the plane of revolution, when the axis of rotation did not coincide with the dip;" and he found that the currents are most powerful when the axis of revolution is perpendicular to the dip. Upon inclining the axis of revolution from this position, the revolving ball still affects the needle; and it is not until the axis of revolution coincides, or makes a very small angle with the dip, that its effect upon the needle is lost.

If Mr. Mushet's explanation of the phenomena of the revolving ball were correct—viz.: that the air presses upon it, and acts the part of the rubber in an electrical machine, producing the electricity developed—the position of the axis of revolution would not affect the result, because the electric currents would be generated with equal energy, whether the axis of revolution coincided with the dip or not, the extent of the pressure not being in the least altered by the position of the ball. The currents of pyrogen developed in the other experiments, contained in the lecture referred to, are due to one cause—viz.: the electro-magnetic induction of the earth, and are all affected by the angle which the apparatus employed forms with the dip.

Mr. Mushet starts an apparently insuperable difficulty to the reception of the theory of currents from the equator to the poles. "If there be two positive currents (he says) issuing from the equator towards the poles, it must follow that each pole is negative; and, a consequence, on passing the magnetic equator, the poles of the needle must be reversed, the north pole pointing to the south, and the south pole to the north." This difficulty does not, however, seem to be so insuperable as your correspondent anticipates; for, although the general direction of the electric currents is from the equator to the polar regions, according to my hypothesis, confirmed by the experiments of Faraday, Barlow, and others, yet, putting all the recorded observations together, there would seem from them to be a certain space, above and below the line where the atmosphere comes in contact with the earth, and from which magnetic and electric disturbances occur through the inequalities of the surface, and the great difference in the conducting properties of the media presented for the passage of the electric fluid. Hence the often anomalous effects upon the magnetic needle. Thus there is a remarkable double curvature of the lines of declination in Northern Asia, those being concave towards the pole between Odoorsk, on the Ob, and Turuchansk, and convex between the Lake of Balkal and the Gulf of Ostok. In this portion of the earth, in Northern Asia, between the mountains of Manchouk, Juknak, and the Northern Korea, the lines of equal declination form a singularly closed system, and this peculiar configuration seems to recur regularly, and over a great extent of the South Sea, almost as far as the meridian of Pitcairn and the Marquesas, between 20° north lat. and 45° south lat. There are also other disturbances—some periodical, others local. For instance, Mr. W. H. Barlow, son of the late professor, and Mr. Baumgartner and De la Rive, have separately found that natural currents of electricity pass along the wires of electric telegraphs, producing a deviation of the needle of two kinds—one often of as much as 60°, the other varying from 30° to 6°. The former are rarely observed, and the law that guides them has not been discovered; but the latter appear to be regulated by a simple law; for during the day the currents pass from northern to southern stations, and during the night in the opposite direction. Mr. R. W. Fox, of Falmouth, recorded something of a similar effect in a communication to the Royal Society—*Phil. Trans.*, 1831, p. 199. The different periods, natures, and extent of the daily variation in various localities prove these irregularities, as well as the course of the line of no variation, on which the needle always points to the north; this is very regular in some parts, and entirely irregular in others. It is only by the existence of such a line of demarcation that the anomalous and often contradictory observations on record can be reconciled. The effects of mountains and mountainous regions upon the needle agree with this supposition, and the tempests, the earthquakes, and other similar phenomena of Nature, are the result of this demarcation. There is also a vertical and powerful action of the fluid, which must not be forgotten, resulting from the law that forces it to the surface of a sphere, on which it may be located, that not only prevents it entering very deep into the matter of the earth, but also causes it to pass upwards, as much as the earth is repelled by the progress of the fluid towards the northern regions, and is materially aided by the myriads of vegetable points covering the surface of the earth. This effect, in its ordinary course, attracts little or no notice, although vegetation could not exist without it; however, develops itself occasionally with sufficient energy to call attention to it when, previous to earthquakes, the aurora borealis removes to the south. Out of all these irregularities one general result is produced—viz.: that the needle points northward all over the earth, with a greater or less amount of inclination.

But amidst all the discrepancies or anomalies that are presented to us on this line of demarcation, there are abundant traces of the existence of currents from the equator to the polar regions. Some of these have been brought forward during the present discussion, as the change in the variation at St. Helena and the Red Sea, according to the season of the year. The different amount of the hourly variation near the equator, and in higher latitudes is another proof, the opposing direction of the currents in the equatorial regions reducing it from about 13 min. or 14 min., as in the middle of Europe, to about 3 min. or 4 min. in the former parts (Humboldt). The direction of the aurora at the north and south poles, as well as of the trade winds, monsoons, storms, and of extensive earthquakes, all prove the same, for it is not a little singular that storms are found to move in one direction in the northern hemisphere, and in the opposite direction in the southern (Col. Reid). The discussion of this point—the electric origin of winds—will, however, occupy too much space to commence it in this letter.

As there are difficulties in the way of the reception of my hypothesis, so there are even greater ones in the way of that advocated by Mr. Mushet. The following is one of the chief, which has not yet been explained—viz.: if the electric currents moved from pole to pole, the universe would collapse into one mass; for it is found by experiment that when two bodies are suspended near each other, in which separate currents flow in the same direction, the bodies attract each other; and if the direction of the currents does not coincide that the bodies will turn, if free to move, until the currents coincide, and then they will attract each other, according to a law which was illustrated in the Journal of 5th May, 1849, p. 211. This may be proved by suspending a number of bar magnets with strings, or floating them on water—the operation of this law is fatal to the theory of currents from pole to pole. Again, the currents cannot pass through the centre of the earth, as represented in Mr. Hopkins's sketch, as through a pipe, for it is an established law that the centre of every solid body is in a negative state—that is, without fluid; under the operation of this law, the pyrogen is forced from the central parts of the earth (see *Mining Journal*, April 14, 1849, p. 183). The only reason for its entering the earth, as referred to in the fifth paper, "On the Uses of Pyrogen," is, that it seeks to move towards the poles by the shortest route—that is, on a direct line drawn from the equator to the poles. The resistance, however, that it meets with from the operation of the above law forces it to move to the surface, and the direct line it takes in which these two forces are balanced. Hence the supposition stated in the paper referred to, as to the possibility of passing the maximum of heat, by carrying mines to a sufficient depth; which seems to meet with some confirmation in the fact, communicated to me in a letter since the above was written, that some of the deep mines are very cold. J. J. LAKE.

Ordinance-office, Portsmouth, Dec. 10.

## CHANCERY REFORM.

SIR,—Some months ago your readers were favoured with some valuable remarks by "A Voice from Lincoln's Inn," when I, with numerous others anxiously expected their promised continuation. This may meet the writer's eye, and as it concerns many score individuals, he probably will favour us with a reply on the subject.

In the early part of 1839 a gentleman died, leaving vast mineral and other property, so as to induce his two executors (his solicitor and nephew), to administer to the sum of 60,000*l.* sterling. The will being 15 years' old, the soliciting executor advised all parties to make it "a friendly suit (!)" in Chancery. Accordingly, they constituted the widow and two sisters plaintiffs against them as executors, and all the legatees as defendants. This being effected, they at once sold property to pay off mortgage, bank debt, and some of the favoured creditors, requiring others to file bills in Master Leech's office—say, in 1841 and 1842. Those so filed so remain at this moment, and not a single legatee has been settled with. During this unaccountable delay the three nominal-made plaintiffs have become deceased. The Master also died about two years ago; the soliciting executor soon followed, leaving the nephew only to act. The suit stands for want of reviving—creditors and legatees are in *statu quo*. We would, therefore, ask—is it not imperative upon the said executor to revive the suit, and discharge the debts and legacies, there being ample effects and funds to enable him to do so?—and in case of further delay, what steps must they take to compel him, and at what and whose cost and charges?

Bristol, Dec. 11.

G. &amp; C.

[We readily insert the communication of our correspondent, and to which, we have no doubt, the gentleman referred to will reply in our next Journal.]

PROSPECT OF IMPROVEMENT IN THE IRON TRADE.—In addition to the new mill lately started at Dowla's, excavators are busily employed in cutting the foundation of another new mill at Cyfarthfa, on the Pandy field, adjoining the last large mill built there.—*Swansea Herald*.

The nitric acid is now exclusively fabricated from nitrate of soda, the nitrate of potassa being used in making gunpowder and for the purposes of agriculture. One of the most glorious triumphs which chemistry has of late years accomplished, is the substitution of sulphur minerals in our country for the native sulphur of Sicily. Owing to the King of Naples exacting a duty of 4*l.* per ton on all the sulphur leaving his dominions, we rendered ourselves independent of Sicilian monopoly; and, were we deprived of pyrites to-morrow from any cause, we would certainly discover a cheap mode of extracting sulphur from gypsum, a mineral largely distributed in all parts of the world. "This clearly shows that in industry and commerce every imprudence carries with it its own punishment, every oppression immediately and sensibly recoils upon the heads of those from whom it emanates." The monarch of Sicily, finding the injudicious impost on sulphur almost destroyed the commerce of one of the most important provinces of his kingdom, has taken the export duty off sulphur, so that the quantity we now import is more than it was five years ago; and, only for the revolution in Sicily, sulphur would be as cheap as it ever had been. At present the price is high on account of a limited supply.—*Muspratt's Influence of Chemistry in the Animal, Vegetable, and Mineral Kingdom*.

DISCOVERY OF THE MODEL OF ONE OF THE FIRST STEAM-BOATS.—We learn by an American paper, that the model of the first steam-boat, built by John Fitch, has been discovered at the late residence of Col. Kilbourne, his brother-in-law, near to the town of Columbus, in Ohio, having been in the possession of the colonel more than 30 years. It is about 2*ft.* long, and set upon wheels. The boiler is about 1 foot long, and 8 inches in diameter, with a fire through it, not quite in the centre, into which the fire appears to have been placed. The cylinder stands perpendicular, and the framework that supports it is not unlike that now used by some of the low-pressure boats on Lake Erie. There is a paddle-wheel on each side, and, in fact, everything appears to be complete with the exception of a condenser and force-pump. The boiler is even supplied with a safety-valve, though part of it has been broken off.

DEATH BY BURNING.—In the Mendip mining district, in Somersetshire, I am credibly informed that within 70 years a person has been burned alive for stealing ore from the pit mouth. There must be some old inhabitant who can attest this fact, and it would be desirable to obtain its confirmation.—*Notes and Queries*.

## COMPANIES PROCEEDING UNDER THE WINDING-UP ACT.

GREAT WESTERN EXTENSION ATMOSPHERIC RAILWAY.—On Monday 40 of the noblemen and gentlemen who lent their names in the promotion of this undertaking were summoned before Sir W. Horne, to show cause why, as members of the company in their own right, they should not be placed on the list of contributors. Mr. Edy appeared for Mr. Owen, the official manager, and Mr. Pryer as counsel for some of the members of the managing and provisional committee, amongst whom were Lord Dunboyne, Hon. F. Berkeley, Sir J. Anderson, and Sir J. Young. Mr. Owen, who it appears was also secretary to the company, having been sworn, deposed to these gentlemen having attended meetings at which it was resolved to make payments to the engineers and solicitors, and to their having acted, as evidenced by the minute books, in divers other capacities. At one of the meetings it was resolved to borrow 2000*l.*, and 500*l.* respectively, and his Honour placed upon the list in conformity with the law laid down by the House of Lords, all those who were proved to be parties to this proceeding. Resolutions were also passed allotting to each member of the committee 100 shares each, but as no direct proof was produced of the shares having been accepted, his Honour decided on not holding them liable in that respect. The secretary stated that the whole number of shares allotted was 38,000, and that out of this number 12,000 were reserved, 7500 of which were to be distributed among the 75 provisional committee. The "panic" came, and the allotment was delayed until after the plans were deposited for Parliament, but the shares reached a premium of 5 per cent. There are 1100 names on the list of allottees.

THE DIRECT LONDON AND EXETER.—Master Brougham has just allowed a balance of claim of Mr. Abraham, of 1110*l.* for engineering, on behalf of this company. An agreement was produced by which Abraham had agreed to release the directors on payment of 500*l.*, but to reserve his claim in case of bankruptcy. The claim is allowed subject to the directors showing cause to the contrary.

DIRECT EXETER, PLYMOUTH, AND DEVONPORT.—Sir W. Horne has struck off the list of provisional committeemen as liable, several of those gentlemen who formed the London provisional committee, on the ground that, in conformity with the decision of the House of Lords, they had done no act sufficient to fix them with liability, leaving about 40 names on the list, which await the decision of the court in the case of Bealey.

FALMOUTH, HELSTON, AND PENZANCE.—Sir George Rose, has reviewed the list of provisional committeemen of this company, liable in conformity with the law in Cottle and Uppell, and the result has so far attenuated the list of that class of contributors as to leave only about seven members of the 70 liable. The only other list consists of 200 allottees, whose cases will stand over until the Lords have settled the allottee question, and the liabilities of the company are stated to be 6000*l.*

LONDON, BIRMINGHAM, AND BUCKINGHAMSHIRE.—On Monday, the winding up of this company's affairs was opened before Master Kindsley. The petition on which the matter proceeded set forth that the company was started with a proposed capital of 2,000,000*l.*, in 100,000 shares, of 20*l.* each, deposit 2*s.* A large number of shares (nearly 50,000) were allotted, but the deposits were not paid, and liabilities unliquidated were incurred. It was arranged that the members of the provisional committee should pay 100*l.* each to defray debts and wind up the concern, but very few paid the amount. There were 104 members of the provisional committee. The first list of contributors brought in by Mr. Goodchap, the official manager, consisted of the members of the managing committee. After hearing evidence as to the liability of certain members of the committee, it was discovered that Mr. Waddy, who was the petitioner before the Court for winding up the company, was not, according to his own evidence, a "member or contributor thereof," in the sense, as holder of shares, required by the Act of Parliament, and that in consequence the order obtained on his petition could not be legally proceeded with, whereupon his Honour adjourned the proceedings *sine die*, to give time for all parties to consider what future course had better be adopted.

MADRID AND VALENCIA.—Mr. Quilter, the official manager, has received through the hands of Messrs. F. Huth and Co., upwards of 17,000*l.*, being the net proceeds of the amount deposited as caution money in the bank of San Fernando, at Madrid, which has been restored to the company by order of the Spanish Government. This sum will be available for division amongst the parties who may be found entitled to share in it under the provisions of the Winding-up Act. Its surrender is a proceeding which may prove advantageous in influencing the decision of the French Government on similar questions.

GENERAL COMMISSION, SHIP, LOAN, AND INSURANCE COMPANY.—This company was started in June, 1846, for the chartering and receiving consignments of vessels, and the transaction of general shipping business, with a capital of 20,000*l.*, in 4000 shares, of 5*l.* each. The petition states that there are about 20 actions pending against the company, for debts amounting to 2000*l.*, with no assets available to satisfy the debts of the company, which amount to 7060*l.* The office furniture of the company has been taken in execution under a writ of *f. fa.*, and the provisions of the Deed of Settlement for general meetings, appointment of auditors and bankers, and exhibition of balance-sheets, have, according to the petitioners, been wholly disregarded.

ROYAL BANK OF AUSTRALIA.—On Thursday the examination of Mr. Rae, the manager of the bank, was proceeded with. His attention was drawn to an entry in the share-registry register, from which it appeared that Mr. M. W. Boyd, who, together with Mr. Mark Boyd, at previous meetings, had, when examined upon oath, insisted that the former gentleman had never possessed a share in the company, was, according to the books, the owner by transfer of five shares in May, 1845. These shares having been repudiated by Mr. Boyd altogether in his examination before the Master, coupled with the assertion that he had never anything to do with the bank, the discovery excited the surprise of all present, his honour observing that it appeared to be a painful disclosure.

THE IMPERIAL BANK OF ENGLAND.—Master Farrer has opened the inquiry into the state of this company's affairs. Mr. Anthony Souby, the official manager, having brought in the list of contributors liable to pay off the outstanding debts, which are alleged to amount to nearly 200,000*l.* The proceedings are taken on the petition of J. Wallworth, jun., flour factor, of Manchester, where the principal branch of the bank was established in 1836, with a capital of 1,000,000*l.*, in 50,000 shares. Between 1836 and 1839 the directors made five calls of 5*l.* per share, which calls were paid on a large number of shares. Considerable sums were allotted in dividends, but large losses were sustained in the business. In the latter year the bank was unable to meet its engagements, and suspended payment at head quarters, and at its different branches. At this crisis it was resolved by the shareholders to procure funds for payment of the notes in circulation, deposits, and liabilities, to make a further call of 5*l.* per share—making a total amount paid up of 15*l.* out of the original 20*l.* shares; and it was also resolved to change its name to that of the Cheshire and Staffordshire Banking Company, but it was never re-opened under that title. The 5*l.* call was imperfectly paid, and owing to this the assets, outstanding debts, and securities were not collected. Subsequently to the suspension of payment, flats in bankruptcy were issued against several of the directors who became bankrupt. Mr. T. L. Rushton, of Bolton-le-Moor, Lancashire, was appointed receiver under the Banking Act, and succeeded in collecting 15,000*l.* outstanding, which the petitioner, who represents himself and family as nearly ruined by the transaction, and committed to Lancaster Castle, alleges has never been distributed among the shareholders. The first list taken on Tuesday contained the names of 68 persons, to whom shares of 20*l.* each were allotted, who paid the deposit of 1*l.* per share, received scrip certificates, and subsequently signed the Deed of Settlement. Mr. Pryer appeared as counsel for Mr. Souby, the official manager, with Messrs. Johnson, Son, and Wetherall, as solicitors. A large number of solicitors appeared for the other 68 persons summoned, together with the following counsel:—Mr. Daniell, Mr. Bazalette, Mr. Hare, and Mr. Little. A mass of evidence was given relative to the transactions connected with the signatures of the different parties to the Deed of Settlement, upon which, with some few exceptions, his Honour decided on including the names upon the list of contributors, as liable, subject, in specific cases, to the reception of further evidence, and the right of the parties to appeal.—The proceedings were continued on Wednesday, when a novel objection was taken by Mr. Hare to going on any further with the list, on the ground that there were no fewer than three variations in the form and constitution of the company. The first form the company took in April, 1836, was with a proposed capital of 5,000,000*l.*, in 10*l.* shares. It was proposed that the bank should be a great social bank, to embrace the whole of the British islands, with its head establishment in Liverpool. In the following July it was determined that the capital should be 2,500,000*l.*, in 250,000 shares of 10*l.* each, with the central establishment in Manchester, and nine months after, without direct authority from the shareholders, the bank was formally established in Manchester, with branches at Liverpool and other large places in the manufacturing districts, under a duly executed Deed of Settlement, with a capital of 1,000,000*l.* sterling. It now appeared in evidence, that the order of the Court of Chancery for winding up the affairs under the jurisdiction of the Master, had special reference in pursuance of the terms of the petition to the Court to the second and third form of the company's constitution, and not to the first form, under which the parties upon the list of contributors were now sought to be made liable, and who, it was contended, had joined the undertaking under a totally different constitution and state of things to that which existed under the Deed. His Honour said that it was an important and peculiar question affecting the validity of the proceedings, he would take time to consider his decision on the subject. The liabilities to be liquidated in connexion with this concern are alleged to be very heavy. Two or three have just been brought into the official manager's office amounting to 30,000*l.* each, and it is expected that the total liabilities will amount to between 200,000*l.* and 300,000*l.* The proceedings are of interest to the Manchester community, many persons there having been involved in, and others completely ruined by, the transactions of this bank. Most of the directors have become bankrupt through it, and only recently, it is stated, one of them died broken-hearted in the Old Bailey, at Manchester, on ac-



count of the liabilities they entailed upon his estate.—On Thursday, the day was occupied in the discussion of the general question as to whether, owing to the variations that had taken place in the form and constitution of the company, a large number of the shareholders could be made liable, they having, it was contended, joined the original undertaking under a totally different state of things to that which existed under the Deed of Settlement, executed under a subsequent constitution of the company, and which constitution was the only one in which the Court of Chancery in decreeing that the company should be wound up. His Honour said that he would read over all the evidence, and weigh all the arguments that had been adduced before him; but his present impression was that he could hardly place these persons on the list as liable as contracting parties, in respect of the particular company the Court had referred to him to wind up.

**BEDFORDSHIRE, HERTS, AND ESSEX.**—Sir George Rose has struck off the list of contributors a large number of the provisional committee to this company brought in by the official manager, deciding that all the acts they had done, such as attending meetings, sanctioning expenses, contributing to defray them, and appointing a managing committee, did not make them contributors within the Act, and that it was only a matter of agency between the parties.

**DIRECT BIRMINGHAM, OXFORD, AND READING.**—Mr. Hutton, the official manager has proposed a call of 2s. 12s. 6d. per share, payable by the members of the provisional committee, or committee of management, who had been placed on the list as having accepted 100 shares each. The call on 2000 shares is calculated to produce 4000l. to pay off creditors. Mr. Roxburgh, on behalf of the official manager, proposed upon fresh evidence to replace the name of Mr. B. Best on the list of contributors; that gentleman's name having been struck off by Vice-Chancellor Knight Bruce, on appeal from Master Brougham's decision. Counsel for Mr. Best objected to his Honour's jurisdiction to review in the case. After hearing the fresh evidence and weighing the arguments, his Honour decided on again placing the name of Mr. Best on the list as liable, with liberty of appeal to the Court.

**DIRECT WEST END AND CROYDON.**—A call of 75s. per share has been made on each of the 29 members of the provisional committee, who, out of a considerably larger number, have been decided upon as liable.

**DOVER AND DIAL.**—Master Brougham has directed the official manager to appeal against the decision of Vice-Chancellor Rolfe, who had decided that the bill of costs for 5000l. of Messrs. Hooke and Thompson, solicitors to this company, was not to be subject to taxation.

**GALWAY AND ENNIS GRAND JUNCTION.**—A call of 2s. 15s. per share has just been declared upon the shareholders whom the Master has included in the list of contributors, as liable to pay off the debts.

**STAFFORDSHIRE AND SHROPSHIRE RAILWAY.**—On Wednesday, Master Richards proceeded with the winding-up of this company's affairs, the list of contributors having been brought in by Mr. Hutton, the official manager. The company, it appears from affidavits before the Master, was projected with a capital of 350,000l., in 7000 shares of 50l. each. The line was to run between Stafford, Wellington, Shifnal, and Newport, and deposits on shares were paid to the extent of 16,500l., a large portion of which, it is alleged, was misapplied by the provisional committee in the purchase of shares in the market; and, in consequence of the fluctuation in the price of the scrip, the whole or a greater part of the amount so misapplied was lost to the funds of the company. There appear to be considerable outstanding liabilities, and it is alleged that there are assets and funds belonging to the company in the hands of the provisional committee, or of Mr. C. D. Archibald, of Rusland Hall, Lancaster, the depository of the committee, to the extent of 1100l., to which the shareholders were entitled. Amongst the claims sent in to the official manager is one of 5000l. from the solicitor, and a bill of 400l. for a directors' dinner at Lovegrove's.

**TONTINE LIFE ASSURANCE COMPANY.**—Sir W. Horne has made a call of 12s. per share on the contributors to this company, to pay off outstanding debts.

**IMPERIAL SALT AND ALKALI COMPANY.**—Master Tynney has commenced investigating the claims of creditors against this company, which amount to several thousand pounds.

#### ACCIDENTS.

**Towstock.**—As William Carpenter, about 40 years of age, was working in the shaft at Wheal Anderton, by some accident he fell, and was precipitated to the bottom, a depth of about 80 fms. Most likely he is now in water, which must be forced before he can be extricated, and it is feared that several days must elapse before that can be done.—On Monday, J. Bartlett, while working in Wheal Maria, by some accident got his hand cut off. **Stratford Park.**—J. W. Corin fell into a wine barrel, and was seriously hurt. **Wheal Seal.**—J. Corin got entangled in some machinery, which seriously injured him. **Gwynn.**—T. Whitford was killed in Wheal Maid, by a scale of ground falling on him. **Aberdare.**—A most serious explosion took place, on Thursday, at Duffryn Colliery, near Newport. At the time the account was forwarded to the *Cardiff Guardian*, the greatest confusion prevailed, and the extent of the calamity was not ascertained; 54 persons were down in the pit, and great delay occurred, owing to the winding-engine having broken, which prevented assistance being promptly rendered from the surface. By a later account, however, we learn that two men have been brought up dead, and three are yet missing, all the rest have been extricated from the pit. The agent of the colliery, Mr. Meredith, had just gone down before the explosion occurred. Nothing is yet stated as to the cause of the accident.

**Awful Explosion of Fire-damp.**—On Wednesday morning, before all the men had gone down into the Morfa Colliery (some 40 or 50 only having descended), an explosion of fire-damp occurred in the pit, by which three of the unfortunate fellows were killed, and 25 more or less hurt. The appalling catastrophe has caused a fearful sensation here. The new Government Inspector will, no doubt, be here as soon as possible, to inquire into the cause, as directed by the recent Act of Parliament; but it would be far better to have an Inspector appointed for the district, who could be called in at once.—*Mon. Merin.*

**Devil's Mine.**—Three sinkers, named John Hughes, Richard Jones, and William Owen, were killed by the breaking of a heavy chain while being drawn up from the pit—the weight of the chain crushing them so that their bodies were scarcely recognizable. It is asserted that the accident was caused by the chain not being properly weighed.

**Cannelfield Colliery, Swansea.**—An explosion happened at this colliery, by which a boy through whose carelessness it was occasioned, met with a severe accident. **St. Helen's.**—Four men were killed by an explosion of fire-damp at Messrs. R. Evans and Co.'s Haydock Basin-park Colliery.—At the inquest it appeared that the explosion had been occasioned by the impudence of the miners, as the colliery was in excellent working condition on the previous evening. The owners have since distributed a new code of rules, which were recommended by the coroner. Including the deaths of these four men there have been, up to this time, 35 men and boys, besides ponies, sacrificed in these collieries; all of which have been caused by neglecting to use the proper precautions.

The report of the explosion was heard at a distance of two miles, and shook the houses and buildings in the vicinity.

**Merthyr.**—J. Hughes, R. Jones, and W. Owen, having finished their work at one of the Down's Mine pits, were ascending the pit, the chain broke, and they fell from a fearful height; when taken up they were found to be all dead. John Evans spoke to the chain being in good repair, and Mr. Clough, the foreman of Messrs. Brown, Lennox, and Co., who had made the chain, testified that it had been proved in the usual manner before being sold to the Down's Iron Company.

**Glasgow.**—A distressing accident occurred at Mr. Barclay's Netherston Quarry Coal-pit, near Maryhill. There are two shafts to the workings, one of them an old one, which is now used as the downcast shaft, and having at the bottom a steam-engine with boiler for winding the coals up from a lower level. In this old shaft is placed the pumps. From the steam-boiler a fine lead runs, but above the gallery between the two shafts, until it opens into the upcast shaft, about 6 fathoms above the gallery, so that the new or upcast shaft forms the chimney for all the smoke and vapour from the steam-engine boiler furnace. Some of the workings extend right and left from the horizontal gallery between the two shafts, and when working properly, the heated air passing up the new shaft caused the current of fresh air to set that way through all the workings. The men were in the habit of descending the new shaft through the smoke and vapour when going down to their work. On Friday Mr. Davidson, the manager, saw some cause to divide the air-course by which the ventilation of the pit was carried on, the unexpected result of which was, that the direction of the air current was reversed, the engine furnace attracting the current towards the old from the new pit, thus making the upcast the downcast. The consequence was that the smoke, which ought to have escaped by the upcast shaft, was driven back into the new workings, which it completely filled, and five of the miners there employed were suffocated. A signal was given from below that something was wrong, when the water that was being pumped out of the pit was again thrown back, which so far reversed the current of air as to allow the miners in the old working to escape by the old or downcast shaft. Only two escaped by the ordinary means of communication with the pit—viz. the new or upcast shaft. Among the sufferers are a father and his two sons. Three or four miners who managed to escape with their lives were also injured more or less severely. This singular casualty seems to have been one that, with requisite caution, need not have occurred.—*North British Mail.*

**Dalmarnock.**—As one of the men employed in the coal-pit of Mr. Wilson, was at work, a large mass of coal became suddenly detached from the roof, and falling upon him, crushed him so severely that death was almost instantaneous.

**Oldham.**—J. S. Hoop was killed by an explosion of gunpowder at the bottom of Chadwick Hall Colliery, Blythdale, near Kirkstall.

**J. Elliott** was killed by an explosion of fire-damp in the Chamber-lane Colliery.

**Cardiff Colliery.**—As James Stewart was employed in the shaft, the rope by which he was suspended broke, and he fell to the bottom, a depth of 50 fms. He was taken up dead.

**Rotherham.**—As T. Peat was employed as roller at the Milton Iron-works, he was incautiously screwing down one of the rollers, the machinery being in motion, when a strong leather apron which he was wearing was caught by the rollers, and he was drawn with his body close to the machine. He screamed out, when several of his fellow-workmen held him, and by main strength prevented him from passing through the rollers, which would have caused instant death. In this position he remained several minutes, till the machine could be stopped, during which he ejaculated several times, "Lord have mercy upon me." The poor fellow was drawn double by the force of the opposing power, and the lower part of his body was frightfully injured. He was removed to his lodgings in Stubbings-lane, where he ultimately expired.—*Sheffield Times.*

**Pontypool.**—W. Marsh and T. Jenkins were frightfully injured by an explosion of gun cotton, in the work upon which they were engaged in the British Works a few days since. It is expected they will long be in the grave.

**Miraculous Escape.**—As W. Richards was driving his team from the Cymantid pit, a few days since, a large stone, weighing about a ton and a half, fell partly upon him, and broke in several of his ribs. That he escaped being crushed to death, seems almost miraculous.—*Monmouthshire Merlin.*

**Dreadful Accident.**—A dreadful accident has occurred at Broadlax Freestone Quarry, in the parish of Lechnabben, by which one unfortunate man has been fatally, and two others severely, injured. This quarry, which belongs to Sir William Jardine, Bart., was worked by two men, named David Graham and John Campbell; and on Friday afternoon they had prepared a blast, along with a labourer in their employment, named Thomas Frazer. The hole had been drilled as usual, the powder deposited, and the parties retired after lighting the match. The powder, however, did not explode, and they returned to the spot and commenced re-drilling at the hole. Graham was sitting on the rock holding the drill, and Frazer was striking it with a hammer, when it is supposed that a spark from the iron ignited the powder, which suddenly exploded. The drill was blown from Graham's hands, and he himself thrown a distance of several yards; when picked up he presented a dreadful spectacle, one of his legs was broken in several places, there was a deep gash on his chin; his jaw was broken; and his head bruised in several places, and his sight destroyed. No hopes of the unfortunate man's recovery are entertained. Campbell and Frazer were severely cut by the flying stones about the head and face, and they have both, temporarily at least, lost all power of vision. They all reside in Broadlax village, and are all married men with families.—*Ipworth Express.*

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EXPENDITURE.

35,500 tons of peat, at 2s. per ton..... £3650

435 tons of sulphuric acid, at £7..... 3185

Wear and tear of apparatus, &c..... 700

Wages, labour, &c..... 3000

Cost of sending to market, and other incidental charges..... 2152

Total..... £11,717

PRODUCE.

365 tons of sulphate of ammonia, at £12 per ton..... £4380

255 tons of acetate of lime, at £14..... 3570

19,000 gallons naphtha, at 5s..... 4750

109,500 lbs. of paraffine, at 1s..... 5475

73,000 gallons volatile oil, at 1s..... 3650

36,000 gallons fixed oil, at 1s..... 1800

Total..... £23,635

Thereby showing a NET PROFIT OF ELEVEN THOUSAND NINE HUNDRED AND EIGHT POUNDS on this comparatively small expenditure.

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#### New Patents.

LIST OF PATENTS GRANTED DURING THE PAST WEEK.

H. W. Wood, of Briton Ferry, near Neath, Glamorganshire, gentleman, for improvements in the manufacture of fuel.

S. Kayner, of Berners-street, Oxford-street, Middlesex, artist, improvements in paving. A. Turner, of Leicester, manufacturer, for improvements in applying heat for generating steam for motive power, and for other purposes, and in generating heat, and in heating and evaporating fluids.

J. T. Wilson, of Stratford-le-Bow, Middlesex, chemist, for improvements in the manufacture of alum, and in obtaining ammonia.

F. Pappa, of Camberwell, chemist, for improvements in metallic and other bedsteads, mattresses, and curtain rods, and in the coating or covering of bedsteads, and other articles wholly or in part composed of metal.

A. Klein, of Glasgow, accountant, for certain improvements in treating the fleeces of sheep when on the animals.

J. Mortimer, Esq., of Hanover-square, Middlesex, for improvements in the magnetic needle and mariners' compasses.

G. H. Voyce, of Acton-street, Middlesex, artist, for improvements in the manufacture of paper hangings.

J. W. Hoby, of Glasgow, engineer, for improvements in the construction of the permanent way of railways.

J. Everest, of Tombridge, Kent, and G. Osborne, of the same place, for certain improvements in commodes, and in fixed and portable water-closets.

D. L. Williams, of Thornhill, Llandoli, Carmarthen, gentleman, for certain improvements in furnaces.

W. E. Newton, of Chancery-lane, Middlesex, civil engineer, for improvements in engines to be worked by steam or other power.

R. A. Brooman, Fleet-street, patent agent, for improvements in agricultural machines. A. Turner, of the firm of Messrs. Turner and Co., dyers, cleaners, and finishers, Adelphi Works, Strand, Lancaster, for improvements in figuring and ornamenting woven fabrics, and in machinery employed therein.

A. V. Newton, of Chancery-lane, mechanical draughtsman, for improvements in cutting and dressing stone; also in the manufacture of iron hurdles or fences, and of certain other articles in the construction of which wire-work is or may be employed.

W. B. Johnson, of Manchester, Lancaster, manager, for certain improvements in steam-engines and in apparatus for generating steam, such improvements in engines being wholly or in part applicable where other vapours or gases are used as the motive power.

J. Mason, of Rochdale, Lancaster, machine maker, and G. Collier, of Halifax, York, manager, for certain improvements in preparing cotton and other textile materials for spinning, and in tools or apparatus for making cards and other parts of such preparing machinery, and in engines for giving motion to the same, which engines are also applicable in other cases where motive power is required.

S. Baxter, of Wapping, Middlesex, shipwright, for improvements in apparatus for lifting, and for facilitating the working or steering of ships.

J. Bennett, of Deptford, Kent, engineer, for certain improvements in doors, window-shutters, and blinds.

E. Morewood, of Enfield, Middlesex, gentleman, and G. Rogers, of the same place, gentleman, for improvements in coating or covering metals.

J. A. Marneis, of Lyons, for improvements in the manufacture of indigo.

J. Baldwin, and G. Collier, both of Halifax, mechanics, for improvements in the manufacture of carpets and other fabrics.

G. Royce, of Fleetland, Lincoln, miller, for improvements in grinding, dressing, and cleaning corn and seed.

G. B. Thorncroft, of Wolverhampton, Stafford, ironmaster, for improvements in the manufacture of crank-axes.

T. H. Howells, of Amelia-row, Landport, Portsea, Hants, gunner, for improvements in gun-carriages.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

J. W. M. Last, Strand, improved printing machine.

C. Warner, Birmingham, penholder.

W. Lanford, Hitchin, gas stove.

R. Batt and Sons, Edward-street, Portman-square, versatile trousers.

W. Marshall, Regent-street, shirt.

G. Barnett, Jewin-street, magical cylinder drop.

Ransomes and May, Ipswich, parts of a water crane for railways.

E. R. Turner and Co., Ipswich, roller mill.—*Mechanics Magazine.*

THE ELECTRIC TELEGRAPH IN FRANCE.—A discussion, which, but for the principles involved, could not fail to be other than absurd, took place in the French Chamber last week, upon the debates on the lease of the Great Western line. The subject was the privilege of telegraphic communication, and the amendments arose on a point of differential tariff between daily and weekly papers. The movers of the amendment asked for equal tariff for the public press, without distinction of their publication, daily or weekly. The Minister, however, persuaded the Chamber to reject this very proper amendment, on the ground that weekly papers would be but poor retail customers, and that the Government ought to consult their wholesale clients—viz. the daily papers, at the cheaper price. This is a system of differential duties which, for the life of us, we cannot explain on any principle of justice. It appears to be a consequence of Government control over railways.

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